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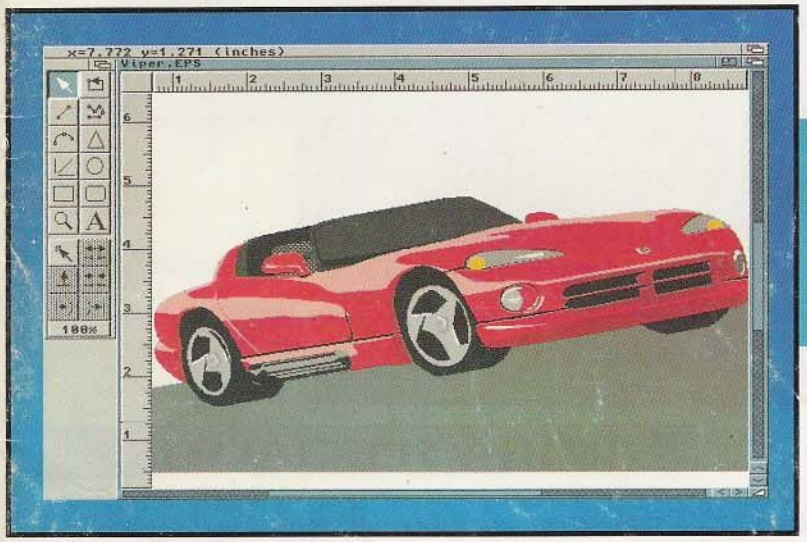
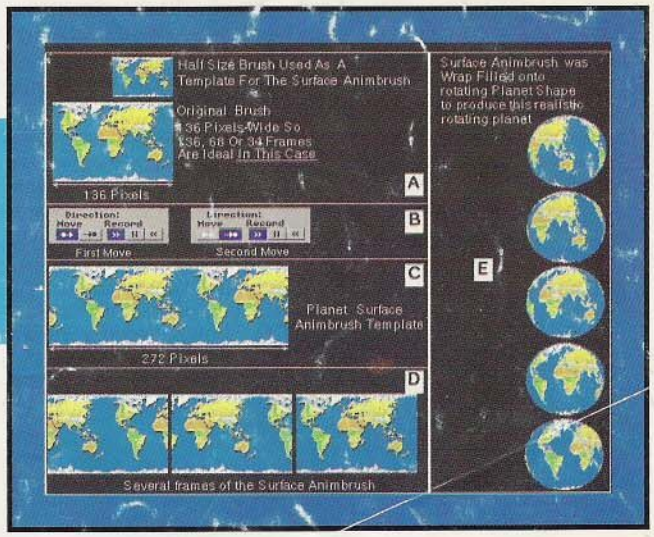
Australian Commodore & AMIGA Review

For Professional and Home Users



Art Expression
Better By Design

68060
Next Generation CPU from Motorola



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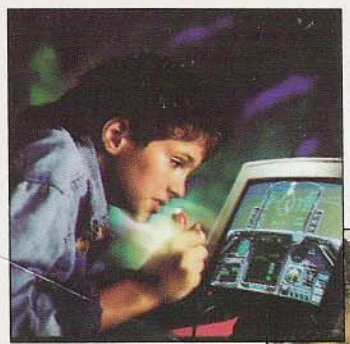
AMIGA 1200

THE BEST OF ALL WORLDS

USING AMIGAS

Amigas let you decide how you use them. You can use the point and click system, which we call Workbench, or you can type commands on the keyboard as on MS-DOS computers. Most people prefer Workbench, it is easy to learn and great fun to customise. With Workbench you move the pointer around the screen withthe mouse and click on little pictures called icons, these represent functions you want your Amiga to do.

All Amigas can run several programs at once: so you can print a letter, sort names and address lists, listen to some music and play with a paint program all at the same time.



You can also exchange data with MS-DOS machines simply by putting the disk in the drive. Workbench will even give you an icon to make things easier.

Most Amiga programs use a universal file format called IFF. This allows one program to use another's data, for example, a Word Processor can use a picture created in a drawing program.

Even the software you buy for your Amiga will be easy to use and great value for money, just like the computer itself.

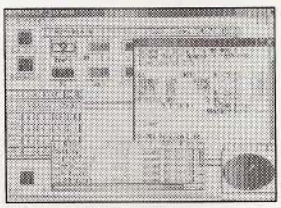
AMIGA SPECIALITIES

The Amiga is a great tool for work and pleasure but it excels at:

- Anything to do with graphics or video. Being video compatible means that the picture can be displayed on a T.V. or recorded on video. Having a graphics co-processor makes the action fast, whether you are reading through a large report or playing a super-action game.

- Built in digital stereo sound on the Amiga gives you concert quality reproduction. With an inexpensive add-on you can even digitise your own audio and then experiment with it on the screen.

- With the addition of optional emulators, the Amiga can also run MS-DOS * or Macintosh * software - giving you the best of all worlds.



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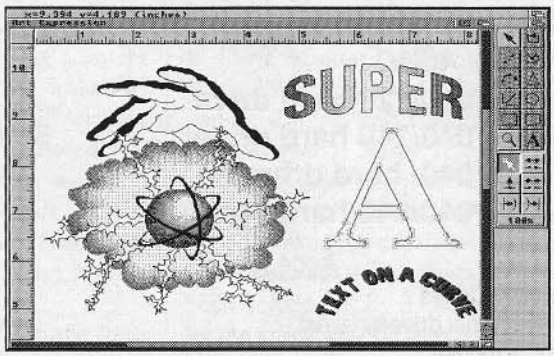
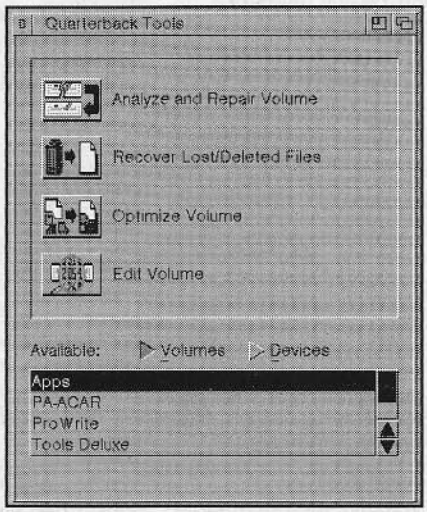


14 Art Expression



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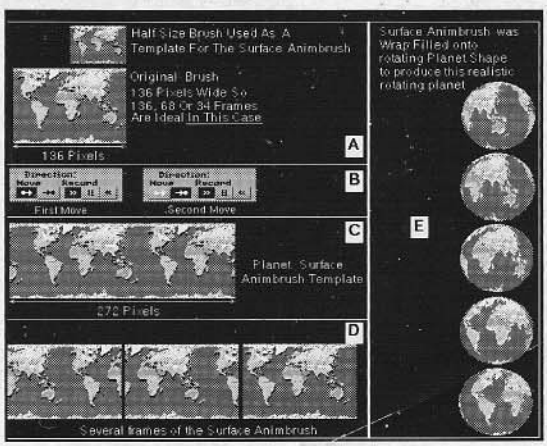

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Editorial

Video CD is just around the corner. I have seen it. The quality is amazing. We're talking full VHS quality playing from compact disc. Digital video, compressed onto CD, and uncompressed on the fly to be displayed on an Amiga. Amazing.

Commodore's new Amiga CD 32 will be the first of many platforms to deliver this new standard, which I believe will start to replace VHS immediately.

Major hardware players have already agreed on a standard format. The number of distribution companies interested in using CD is growing too.

No doubt, video stores will soon carry CDs instead of videos. The music industry will sell multi-format discs which include video clips as well as music. Add on converters for existing players may arrive too.

It's certainly great news for the Amiga. After all, the Amiga CD 32 is built around the new Advanced Graphics Architecture. So, any applications developed for it will be compatible with the Amiga 1200 and 4000. Or will they? Nobody seems sure as to whether Commodore have any plans to develop the existing Amiga market for CD-ROM applications.

It would be great to see Commodore's buying power behind a CD-ROM drive for all Amigas. One that could take advantage of this new technology in much the same way as PC owners can enjoy Multimedia applications running under Windows.

With so many Intel based multimedia products surfacing, all of which are collections of sound, animation and graphics controlled through a simple interface, it surely would not be too difficult to see some of these titles converted to the Amiga. At the very least, they should be converted for the Amiga CD 32.

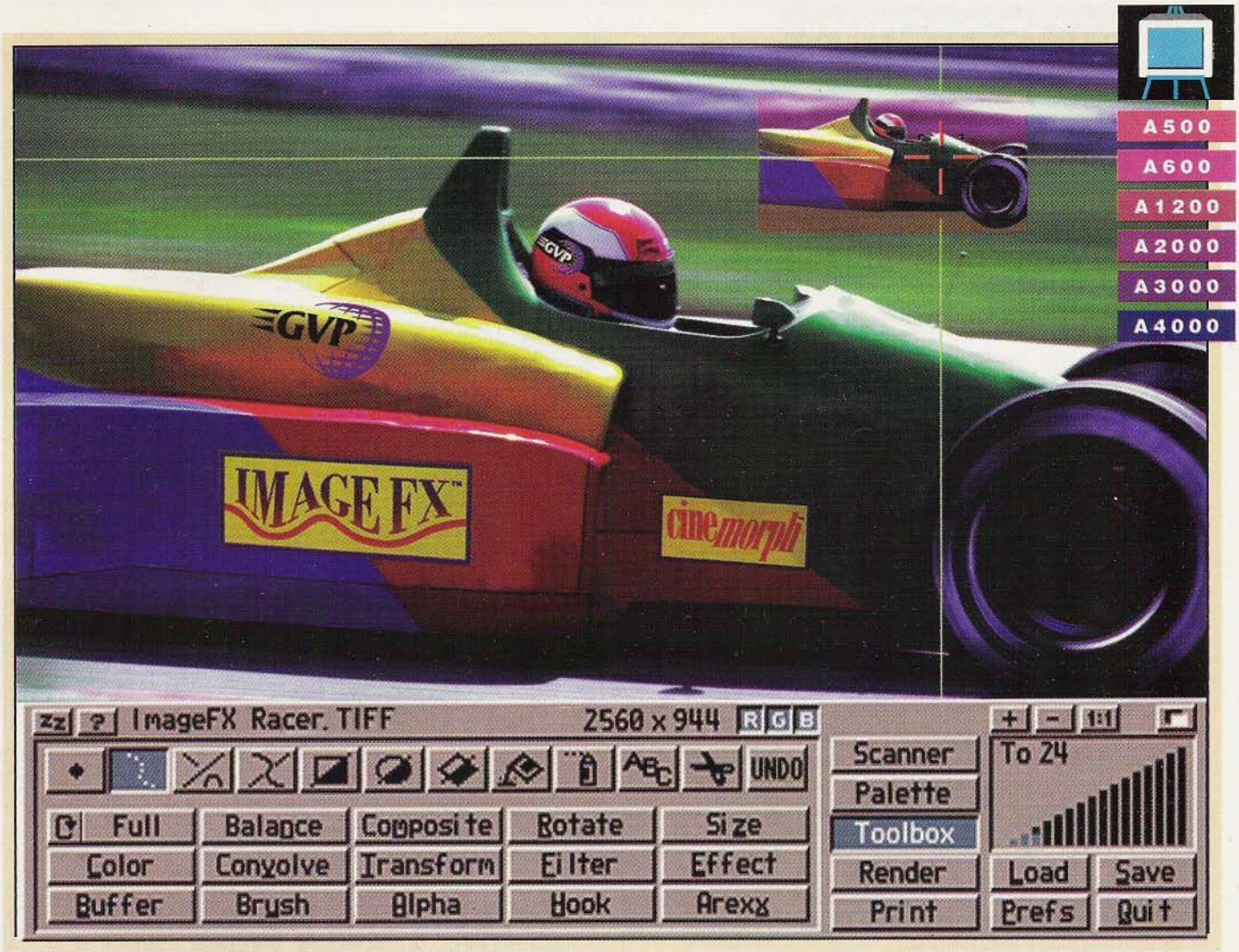
Speaking of CDs, I have been playing the most amazing adventure game on my CDTV player over the last few days. The game has been complete for some months. It is not available. The publisher has not decided to start producing the game as they're not sure there's a big enough market.

I find this very strange considering the arrival of CD 32 just around the corner.

The game uses a point and click interface to move through a huge world. Every room is raytraced and the graphics executed by none other than the very talented Bradley Schenke. They are incredible and the game play intriguing. I can only hope the company concerned will take a second look at this title. It deserves better.

Andrew Farrell

(09) 275-1010



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CINEMORPH INCLUDED FREE

We could have stopped there, but Image Processing is serious business, and serious business calls for value *and* power, so **ImageFX** holds nothing back. *You won't find any other Image Processing software with these **integrated** features:*

JX-100 Scanning	☑	Regionalized Processing	☑
Virtual memory	☑	Edge Feathering	☑
Complete Painting Tools	☑	Brush Handling	☑
Real-time WYSIWYG Preview	☑	Color Transparencies	☑
Dual Image Buffers	☑	Separate RGB Masking	☑
Alpha Channel	☑	CMY/HSV Operation	☑
Undo & Redo	☑	YUV/YIO Operation	☑

Perhaps other Image Processing packages will someday catch on to the power and flexibility of **ImageFX**. However, if you're serious *now* about Image Processing, you need the software that was *born* ready. No limitations. No costly additions!

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UPDATE COLUMN

There seems to have been some confusion about our new address, phone & fax number since our move from Silverwater. So here are the full details again.

33-35 Alleyne Street, Chatswood
NSW 2067, Australia
P.O. Box 168, Willoughby,
N.S.W. 2068 Australia
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I would like to remind you once again that *Amos Pro Compiler* is now available and is retailing in your local computer store for $99.00. There is an upgrade now available from *Amos Compiler* to the *Amos Pro Compiler* and the costs you $66.00 including P&P. To avail yourself of this upgrade offer, you need to send in the manual cover of *Amos Compiler* together with your full name and address, and of course the money.

We wish to apologise for being out of stock of *Mini Office Amiga* & *ADI Junior Amiga*, but I'm happy to inform you that we now have ample stocks of both. Also the Golden Image Hand Scanner which was out of stock for a while is also back now.

This scanner if you recall, comes complete with *Migraph* OCR as well as the graphics package and in fact contains everything you need for excellent scanning on your Amiga. I should also point out that this scanner will run on any of the Amigas up to and including the A4000.

After extensive discussion, Bruce Smith Books of the UK have finally decided to appoint us as their distributor here in Australia. The list of books available is as follows:

Mastering Amiga Amos
Mastering Amiga Beginners
Mastering Amiga Dos 2 Volume 1
Master Amiga Dos 2 Vol 2
Mastering Amiga Dos 3 Volume 2
Mastering Workbench 2
Mastering Amiga Assembler
A1200 Insider Guide
Mastering Amiga Arexx
Mastering Amiga Printers
Amiga Gamer Volume One
A600 Insider Guide

As usual you can obtain these from your local computer shop or major book store. If you find they are out of stock, simply place an order & we will get the book out to them, usually within 48 hours.

Talk to you soon.

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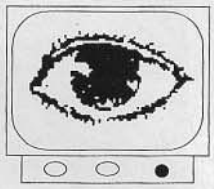
Media Watch



Be specific

The melodically named DVS-D spotted some people on an SBS show "about starting a business or something" buying an A2000 in a store. And no, DVS, you don't get "a poster or something" until you come up with a more specific spotting!

Dennis the Menace

Like, for example, Michael Merritt's; during a show on the *Making of Dennis the Menace* on Channel 7, he spotted an A500 in the dubbing studio. There was no display visible to see how the machine was being used, but as he says it was great to see "this humble but versatile Amiga ... holding its own amongst tens of thousands of dollars of sound recording and FX equipment"! Pretty sharp, Michael.

User Groups

The Amiga User Group in Queenstown has changed its name from "West Coast Commodore Users Group" to "West Coast Amiga Users Group". Alas poor 64, we knew it well ...

And another group - the Wollongong Amiga Group (W.A.G.), which meets the second Thursday every month at 7pm in the Primbee Primary School, south of Warrawong. Membership is $20 per annum for a family; call the President, Keith Brooks on (042) 293 669 or send mail to Peter Stanhope at 155 Jacaranda Ave, Figtree 2525.

Amiga T-Shirt Day!

September the 1st has been announced as International Amiga T-Shirt Day. The idea is to wear a T-Shirt all day on September 1st which promotes the Amiga. If you need a shirt to wear contact Jeff Wilson on (02) 980 7723. Hopefully lots of people will see the shirts and realise there's more Amiga people out there than they thought. Make sure you've got the usual collection of one liners. In case you're not sure what to say, here's a few suggestions from our team here at *Amiga Review*.

"Oh, you had to buy a sound card?"

"So you ran out of memory when you installed that device driver?"

"Multitasking, yes - we've had that since 1985 - so you guys will have it soon on your PC."

"Oh, and it only takes 16Mbs to run Windows NT? Wow! By the way, did I tell you I have 3Mb on my Amiga 2000 now. It's tough you know, I can multitask three applications at once and format every drive on my system!"

"Having trouble installing a driver for your latest video card? You had to play with dip switches? They're talking about plug and play soon ... like you just plug it in and the computer knows it's there. Great - you'll enjoy that, I've really liked how easy my Amiga is to expand. You know the last time I added a floppy drive all I did was plug it in!"

I'm sure you get the idea by now - just make sure you keep smiling the whole time and don't sound too cynical when they tell you *Windows* is a real operating system.

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DSS8+ DIGITAL SOUND STUDIO

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DSS8+ is the essential audio peripheral for everyone from beginners to digital sound veterans. In other words, **DS88+** is for anyone interested in a fun and simple-to-use tool for sound and music. It's perfect for jazzing up MultiMedia presentations created with Scala™, Helm™, CanDo™, MediaLink™, or AmigaVision™.

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Notepad

Workbench updates

Officially, there's still no official word on the availability of Workbench 2.1 in Australia. Despite this, Amiga resellers continue to supply this important upgrade. The new version adds CrossDOS, improved device driver and preference control along with other behind the scene changes. According to one source, the reason Commodore Australia have held back is the imminent arrival of Workbench 3.1.

Unlike 3.0 which requires the AGA chip set and is incompatible with earlier Amigas, 3.1 works on any Amiga and contains numerous improvements, not to mention increased compatibility. It seems that despite the staff cut-backs within Commodore US, external contractors have continued development of the operating system. No times on the arrival of 3.1 were given, however it is close. Meanwhile, in the PC clone world it was announced recently that *Windows* is now out-selling DOS applications. It's all a game of numbers - create enough good applications and suddenly users are happy to use it.

IBM will manufacture Atari

Get this! IBM and Atari are doing business. The big Amiga console threat, the Atari Jaguar, will be manufactured and distributed by, ready for this, IBM. The Jaguar is a 64-bit RISC based machine - so it's bound to be very fast. However, rumour is it will also be more expensive by the time you add a CD-ROM drive and match the Amiga CD 32's other features.

Home computer explosion predicted

No, not the sort that go off with a bang. We're talking mass consumption - like the VCR and television. A marketing research group is predicting the humble home computer will also saturate the market. They say by 1999 there will be an amazing 2.5 computers per household.

We've done our research and worked out that the .5 are the IBM clones and the 2 is probably some new Amiga we don't know about yet - the A10,000 or perhaps just A10 squared. They say that at the end of 1992 there was a mere 0.3 machines per household - or around 30 million units in total.

So, there's a pretty good chance you're still the only person on your stretch of the street that owns a computer - but there's probably at least two other people on the average sized block.

Fake ATM's

In case you missed the movie - it's been done in Hollywood before with fake safety deposit boxes - now they're doing it for real with Automatic Teller Machines. Two men were arrested in Arizona, charged with fraud, conspiracy and transportation of stolen property after they placed a dummy ATM in a mall. It recorded the account numbers and personal identification numbers of bank customers.

The thieves then used those numbers to withdraw money from customers' accounts at various bank machines up and down the East Coast of the United States. So next time you're making a withdrawal, make sure the machine is firmly bolted down.

24-Bits and Pieces

If you're into serious quality graphics, there's a newsletter published in Western Australia just for you. Publisher and editor, David Jacobs, produces this 12 page journal - filling it with news, upgrade information, how-to stories, an impressive art gallery and product reviews. It's a worthwhile publication for anyone interested in 24-bit animation and image processing software. For more information call (09) 276 7850 or fax (09) 249 5495.

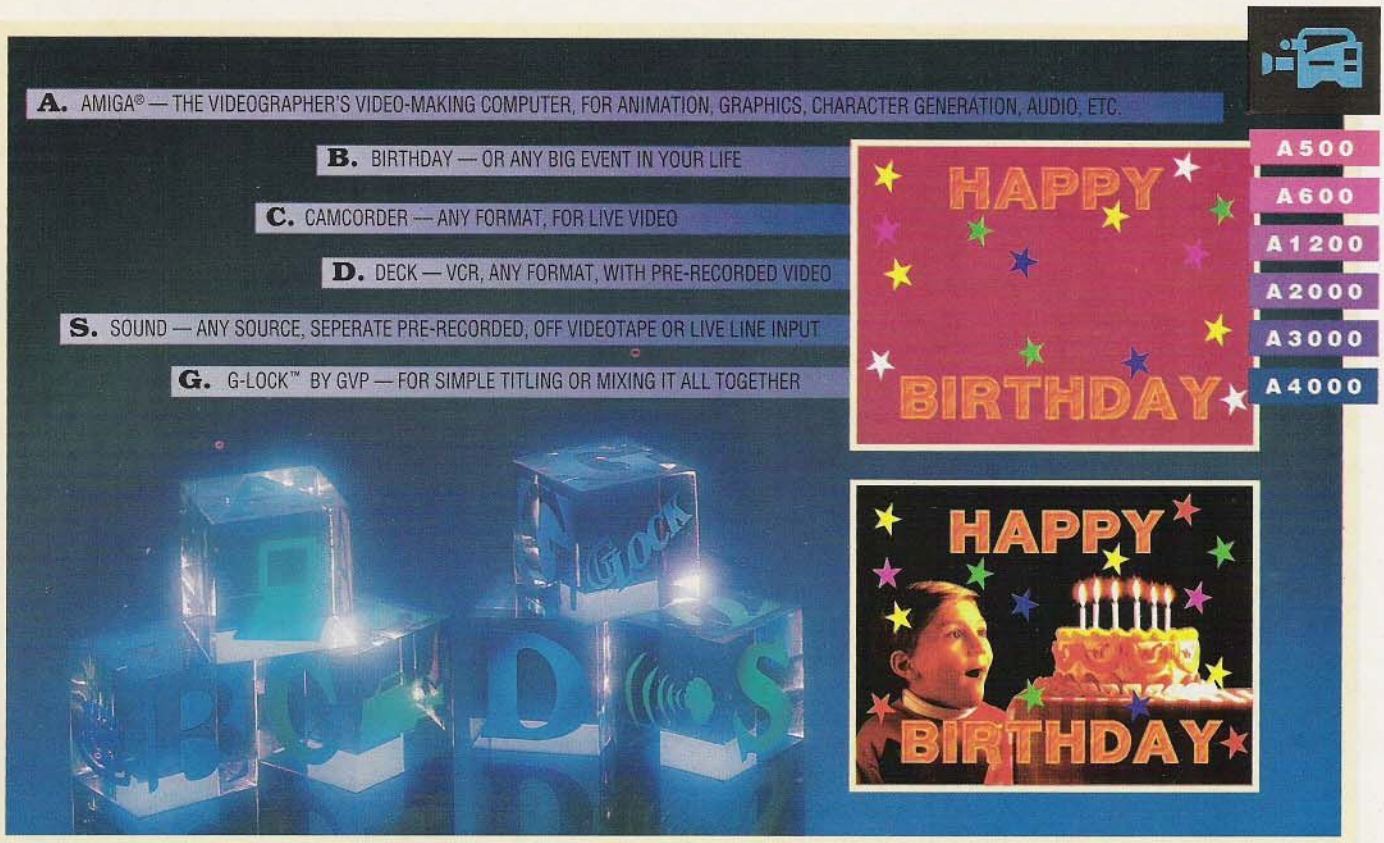
Support grows for video on CD

A group of leading consumer electronic manufacturers and program content providers announced last week at the Digital World conference that they will support the distribution of video on Compact Disc. These discs will use the MPEG 1 standard for the compression of video and audio data.

Further, the manufacturers have agreed to support the Karaoke CD format proposed by JVC and Philips Consumer Electronics which will ensure that video CD programs can be played interchangeably on a wide variety of platforms.

Companies supporting the format include Commodore, C-Cube Microsystems, E-Motions, Goldstar, JVC, Paramount Home Video, Philips and Samsung. MPEG 1 compression technology allows 74 minutes of VHS-quality video and CD-quality audio to be played from a Compact Disc.

Directory information on video CD format discs is compatible with both interactive players (such as CD-I, Commodore Amiga, 3DO, Macintosh, PC-compatibles etc.) and linear play machines (karaoke or movie players). To support interactive machines, the directory format is compatible with CD-ROM XA, including all ISO 9660 compatible CD drives.



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Review: A500 Deluxe Work Centre

The A500 is a deservedly popular machine. Cheap, fairly powerful, fairly expandable. But a major shortcoming is the case design - it's a flimsy plastic console, and you can't stand a monitor on it. You can rest one on the back (putting everything plugged into the machine in jeopardy) or waste your desk space by putting the screen somewhere else - but that's about as far as it goes.

Unless, that is, you've invested in one of the Deluxe Work Centres sold by Don Quixote for $120. This is a sturdy enamelled metal chassis that the 500 slides into up to the point where its case begins to taper, and it is plenty strong enough to stand a monitor on.

There's a shelf in the middle of the Work Centre to park your external drives in, or just use as temporary disk storage, and the unit also comes with a dust cover, self-adhesive mouse house and a mouse mat.

The design isn't perfect. Because your computer's rear is hidden under a metal overhang, plugging in and removing leads is a pain. However, the most commonly accessed ports are the two mouse/joystick sockets, and the Work Centre includes extender cables that take these ports out to the right side of the box - which could be a little awkward if you're a left-handed user and your mouse cable doesn't stretch.

There's another panel cut-out on the right side, big enough for a standard 25 pin connector - so you could pass the serial or parallel ports out the side for the cost of a cable. Of course, there's nothing stopping you grabbing a drill and a nibbler and making your own cutouts, either.

Overall the Deluxe Work Centre is pretty good value. It will tidy up a cluttered desk, and since you're not going to change the stuff plugged into the back of your machine very often it's not much of a hassle to use. Worth a look.

For more information call Don Quixote Software on (076) 391 578.

Imagine 3.0 announced

3D rendering fans will be glad to know the 3.0 release of the *Imagine* rendering package includes lots of new features - more than 200, in fact.

Bones allow you to build a skeleton associated to an object, a much better system than the old cycle editor.

Brush Tacking allows brushes or pictures to be directly mapped to objects so they stick properly to the object as it moves, rather than sliding around.

Kinematic Movements allows more realistic interactions between linked parts, so movement of one will have variable effects on the others.

The Font and Image Editor has been improved to allow Postscript data to be imported, giving much more detail and control.

Motion Graphics lets you vary speeds of objects as much as you like at any point in their movement path, without having to figure out any Nasty Math.

It's now much easier to use the program, because you don't have to shuffle from one editor to the next all the time; common operations can now be done from the Stage.

Sound - *Imagine 3* lets you load soundtracks into the Action Editor, so you can perfectly sync everything to the music or voice. *Imagine* now renders in 256 colour and HAM8 AGA modes. Anti-aliasing has been improved, so jaggies are less noticeable.

Real Time Graphics lets you record movements freehand, for fast estimates or if "wobble-cam" turns you on. Deformations have been improved, with five built in deformations which can be combined for truly funky effects.

The new Materials editor gives finer control over object composition and texture, and avoids everything being lumped together in one massive attribute editor.

The Forms Editor lets you manipulate object slices more easily, with the new magnetism system. Field Rendering produces smooth animations without needing frame by frame precision.

New Camera and Light markers show camera fields of view and light source directions so you don't have to guess what you're looking at or lighting up. The old Silver Apply command is back, to easily apply the attributes of a selected object to a number of others.

Macros automate tedious, repetitive tasks, turning them into a simple keystroke. Particles (the current 3D software buzzword) have been included, and they're easy to morph, brush, texture and animate - and don't slow down rendering!

Alpha support gives power video users the power they paid for with their monster graphics boards. Depth of Field lets you make even more realistic imaging, by simulating the limited focal range of a camera to blur the fore and background, making the area your target's in stand out.

Light source controls have been inproved, adding area control, shaped light sources, soft edges and shadow mapping for scanline rendering speed freaks.

For information on upgrades, contact Impulse directly. Stay tuned for Australian pricing next month.

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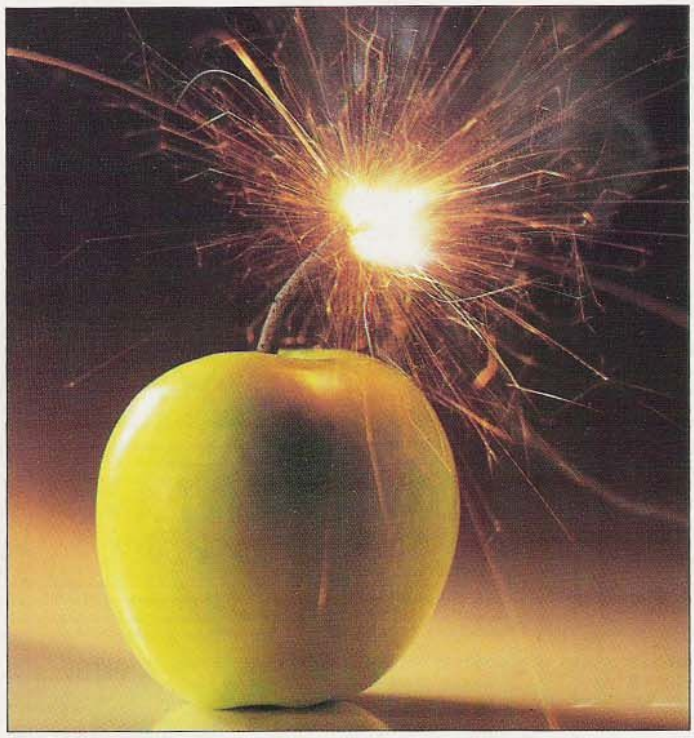

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A series of advanced techniques make Scala load and display pictures and animations faster than any other package!

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Creating interactive hotspots has never been so easy! Scala MM200 even includes full support of variables.

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Chips beat cocaine

In the US reports of daring robbers targeting high-tech manufacturers are growing. One California deputy district attorney described computer chips as "the dope of the '90s". Apparently stolen chips are attracting good prices on the black market as demand continues to outstrip supply.

"Pound for pound, [chips are] more valuable than cocaine," said Julius Finklestein, a deputy district attorney in the Santa Clara County's high-tech crimes unit. We're not talking about sneaky night raids here, folks. These guys are armed and dangerous. They're invading during daylight hours, terrorizing employees and demanding the goods. Smaller companies with less sophisticated security systems are most at risk.

ImageFX Upgraded

GVP has announced the imminent release of a major upgrade to their image processing package, *ImageFX*. *ImageFX* has now been further enhanced to meet the changing demands of photographers, graphic artists, animators, educators, scientists, and hobbyists. Highlights of this comprehensive upgrade include faster global operation, multilevel UNDO, macro recording, and aspect lock.

In addition, users can expect improved real-time feedback for all painting tools, new drawing tools, and more crazy effects. Moreover, there are dozens of new loader and saver modules, extended support for the new Epson 600 and 800 series scanners, plus Framegrabbers like the VLAB and PP&S 256. In an effort to stretch compatibility, *ImageFX* 1.5 now directly supports the Opalvision and Retina display boards.

Finally, *ImageFX* 1.5 pushes the envelope of print quality to the limit, as further enhancements were made to the already-excellent output routines. If that weren't enough, the accompanying version 1.5 manual addendum provides clear explanations of changes and features, plus many existing chapters have been expanded and revised, making *ImageFX* 1.5 incredibly easy to use. These are just some of the changes made to the program that embodies its slogan, "Truly Integrated Image Processing."

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Letters TO THE EDITOR

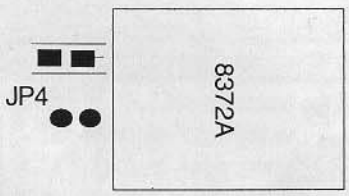
Switching to NTSC

Dear Editor,

After I'd read the article "Faster Games? Switch to NTSC" in the *Commodore Amiga Annual 1993* issue, I decided to install my Amiga 500 so that it can switch to NTSC mode. I've found out that I've a Revision six board with a 8372 Agnus. But when I looked to the left of the Agnus, I found 2 pairs of solder pads. One pair was sort of rectangular and the other pair was circular (like the diagram). Could you please tell me which is the right pair to connect my switch wires to?

Ricky C
Beverly Hills NSW

Ed: *The square ones.*



Scan Lines

Dear Andrew,

A question re: the new A1200 and scan lines. I've seen one A1200 with 1950 monitor and still visible scan lines. I thought the new AGA chips were supposed to "solve" the flicker and visible scan lines problem. Can you respond to this? Perhaps in the letter column of ACAR.

Thanks for a great service.

Dennis

Ed: *The 1200 will do flicker/scan line free modes on appropriate monitors, but it will also do the old ugly ones - in this case it obviously was!*

Upgrading - A1200?

Dear Andrew,

I am an Amiga 500 user and for the last year now have been contemplating upgrading to an Amiga 2000 for the sheer expandability that it offers. That was until early this year when I walked into my local computer dealer and saw what looked like a Amiga 600 with a keypad slapped on the side. After seeing Workbench 3, 24 bit graphics, a 32 bit 68020 processor and a built in 40 meg hard drive I was amazed.

But alas now I am not sure whether to upgrade to a 1200 or wait for the 2400 to come out. Is the Amiga 2400 really to be released? Commodore says they have no plans for a 2200 but what about a 2400. What about a replacement for the 3000 now that it's been stopped in production? Also does the 1200 come with a built in flicker fixer and how long before writable CDs become cheap enough for the home user?

Raphael Cendrillon
Silver Bridle, Qld

Ed: *As far as we know, there are no plans for an A2400, rumours of which have dropped off as better-founded ones about the Amiga games console have picked up. There is a replacement for the A3000; it's the A4000/030 and it's a great machine.*

In answer to your other questions, the A1200 does flicker-FREE, not flicker-FIXED graphics, and about writable CDs, we have no idea at all.

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Art Expression

Better than Professional Draw?

George Kimpton checks out Softlogic's answer to the leader in structured drawing on the Amiga, Gold Disk's Professional Draw 3.0.

Gold Disk's *Professional Page* links directly with *Professional Draw* - a program which has long been the only competitor in the structured drawing world for some time. Now SoftLogic have sorted out the early teething problems with *Art Expression*, does it rate with the leader, *Professional Draw*? Both graphics packages use the structured drawing or vector system of creating graphics - ideal for desktop publishing especially when using postscript output. It kills the jaggies and gives beautiful smooth curves and lines, particularly when scaling text or graphics.

When it comes to graphic or art packages you either love or hate these vector drawing programs. Anyone who has cut their teeth on *DPaint* will find it takes some time to come to grips with the different techniques used in vector graphics.

Art Expression is another program in what will eventually become a fully integrated range of software to support *Pagestream*. When complete it will allow you to flip between your desktop publishing screen and a graphics or text editor with ease through *Hot Links*, correcting or changing and updating objects or text as needed.

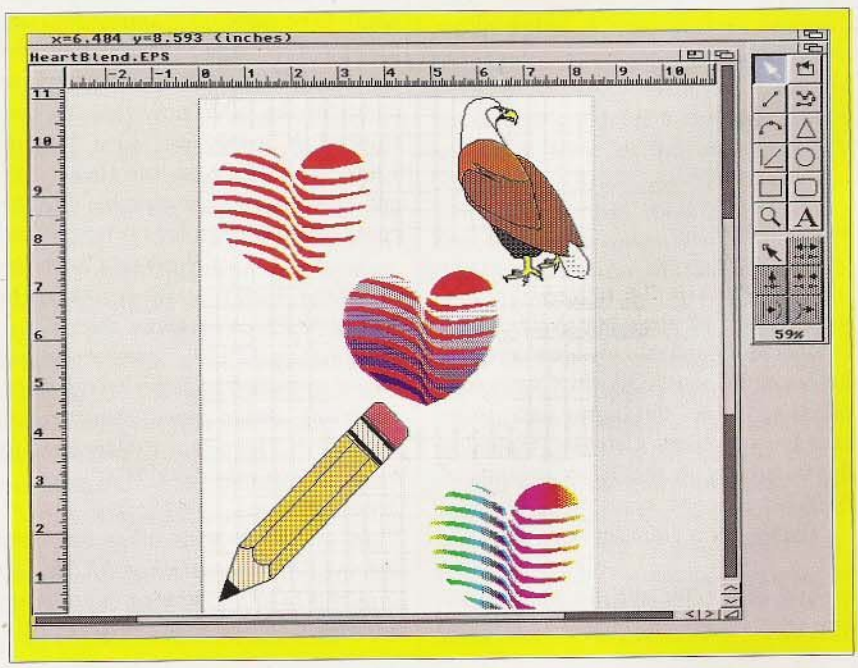
Of course, *Professional Page* owners already enjoy this function without the necessity to employ separate linking software.

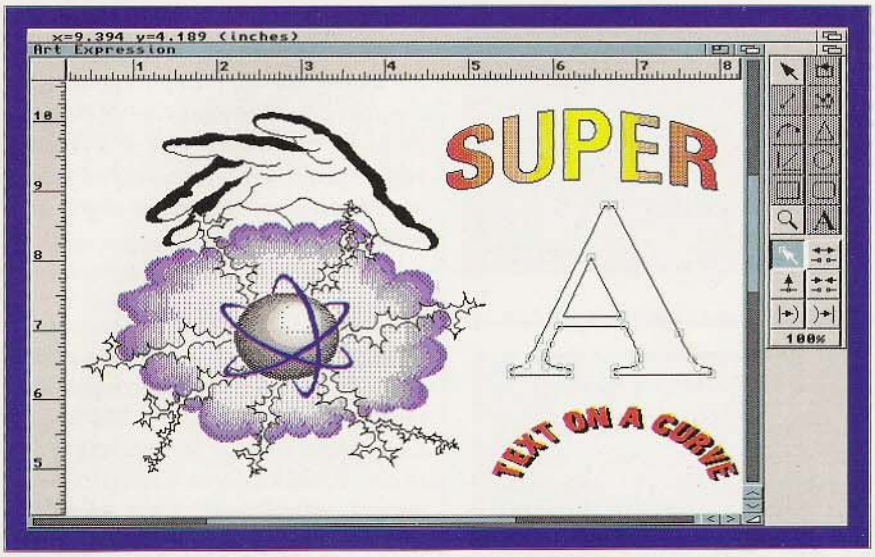
Currently *Art Expression* does not support SoftLogic *Hot Links*, although SoftLogic's BME image processing software does and is supplied as a part of the *Art Expression* package. This could be explained by the fact that *Art Expression* was written by a third party company, not by SoftLogic.

Up and running

Any Amiga with 2MB of memory and Workbench 1.3 or higher will run *Art Expression*. While it will still per-

Art Expression offers excellent drawing tools, a little easier to use than Professional Draw





Creating fancy text is straightforward with the align-to-curve facility

form with 512Kb of chip memory, 1MB is recommended along with an '020 or '030 processor, multisync monitor, hard drive and Postscript printer. Less than 1MB of chip memory can cause problems with printing.Included in the package are two postscript font disks and one program disk plus the BitMap Editor program disk. The *Art Expression* manuals are spiral bound, making them easy to use.

Installation is easy using the HD install icon and before you know it *Art Expression* is up and running. Three tutorials in a separate manual quickly familiarise you with the tool capabilities and operations leaving you to experiment further with other features. A quick-reference card is also supplied to jog the memory, but a number of important tools have been left out.

First impressions

Art Expression, as would be expected, has the typical *Pagestream* look and feel that many of us are familiar with. The tool box is movable for convenience and retains most of the familiar *Pagestream* tools with some additional tools for drawing and editing objects and paths.

For a person used to the wide range of functions available in programs like *DPaint*, the tool box can be somewhat disconcerting with its apparently limited range of capabilities. However, the use of hot keys extends the tools' capabilities.

The work screen is capable of handling quite large pages. I tested a page size of one metre square in custom mode. For smaller pages the remainder of the work area, up to the maximum size, is available for assembly or work on drawn objects before transferring them to the actual page. This extra area is sort of like a clip board where all the nitty gritty is handled. Objects assembled here are cut or copied then pasted on to the page after being sized, rotated or whatever.

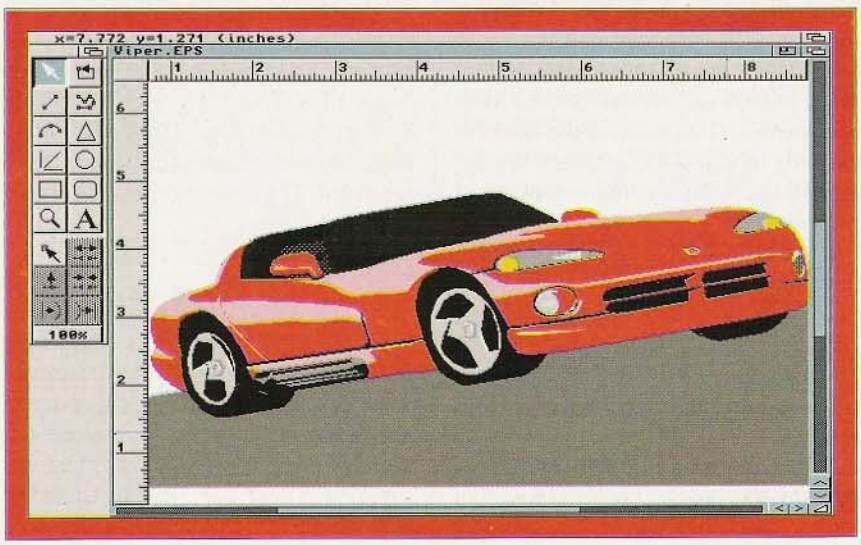
As in *Pagestream* you are limited in the number of colours displayable (16) on screen and I find the lack of a full colour preview mode most annoying in both programs. When trying to visualise what the finished project will look like, the variable colour substitute patterns leave much to be desired. Even a good grey scale might be preferable. I know it is possible to create a grey scale in the fill requester of *Art Expression* but this is messy and tedious to say the least. Pantone colours are not supported but can be entered through the fill requester.

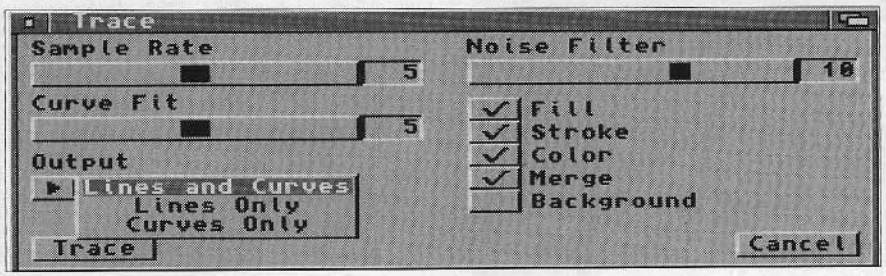
To work

Drawing is relatively easy for anyone familiar with structured drawings. However, for the beginner, the freehand tool can be quite disconcerting at first as it lays down a series of short straight lines which are automatically smoothed out when the mouse button is released.

The straight line tool doubles as a curve tool depending on the use of the mouse. This can also be a little confusing at first as the tool bar also displays what looks like a curve tool. This curve

Same program, configured differently - structured drawing software is often used for commercial illustration work





The trace utility converts bitmapped images into structured files ready for editing in Art Expression

tool operates as both a straight line and an open circle again depending on mouse operation. A little experimentation is called for here to sort out the most effective use of these two tools for best effect.

The range of line editing tools compensates partly for the difficulty in controlling actual line shapes when drawing objects. With these it is possible to insert, delete, move and align points and segments. Curves can be reshaped with the familiar Bezier handles, and lines can be split or joined and converted to curves if desired. The zoom tool is user definable in addition to the standard presets with hot key selection of zoom in or out.

Once created objects can be moved, resized, rotated or skewed quite easily. In the tutorials you are encouraged to do most of this manipulation outside the actual page area. The advantage of this is that you can create a complex object in a size where detail is easy to handle, then cut or copy it and paste it on the page in exactly the size and location needed. This removes the need for zooming in and out on the actual page with all that time wasting redrawing of the screen.

It also helps get around the problem of aligning selected objects exactly when moving them as they appear only as a surrounding box when being moved. An alignment facility is provided but this is somewhat limited in its capabilities.

When choosing line style and thickness several presets are available, but you can enter your own personal choices to suit drawing needs along with the desired colour. For thick lines it is also possible to choose one of three line cap shapes and/or line junction types. Colour fill of selected objects comes from a preset range of colours which can be edited in CYMK (cyan, yellow, magenta, black) or RGB (red, green, blue) format for specific requirements. Both fill and line parameters can be toggled off or on from the object menu.

No gradient fills

Although *Art Expression* has reasonable blend facilities it does not include support for Postscript gradient fills. This is surprising considering the competition. Gradient fills are not always the best way to achieve quality colour graduations, however they're ideal for simple shapes such as circles and squares.

The importing of graphics is limited to Encapsulated Postscript, Adobe *Illustrator* 88 EPS, IFF DR2D and Aegis *Draw* files. Provision is also made to convert *Professional Draw* clip art to DR2D format, although some users have reported limitations in what will sucessfully convert.

Text

While *Art Expression* is based on a Postscript format and uses Postscript Type 1 fonts, it allows you to print to any preference printer. So, anyone can take advantage of the 35 Postscript fonts supplied. These fonts can be scaled to suit and the text can be rotated, flipped, distorted or transformed. It is also possible to easily stretch or condense text by setting the font width and height separately. Facilities are available to easily move the entered text to a chosen custom path, warp it to fit a closed shape or convert it to a graphic object for further manipulation.

Output

There is one warning in the manual under Trouble Shooting about possible problems when the chip RAM is less than 1MB. I found that even with 1MB of chip RAM I still could not print out a tutorial project and no one seems to know why. It could be because of the fact that my particular setup already uses around 180KB of chip before *Art Expression* gets to use it.

The 'work around' with this problem is to save the page and then import it into *Pagestream* where it will print out without any trouble. One exception is that some colours seem to disappear due to *Pagestream*'s colour limitations, but will still print out.

When working with Postscript printers, a separate requester provides the usual output control including negative image, emulsion down, crop/registration marks, CYMK screen angles and frequencies and colour separations.

Conclusions

Art Expression is a great product that sadly falls short in a few basic areas. It lacks a HotLinks connection to *Pagestream* - although this may be added soon. A smart move would have been to support *Professional Page* directly. Without this connection it is necessary to save the artwork and then import it.

Soft-Logic may have been a little hasty releasing this product for some reason - the lack of gradient fills and more powerful controls over distorting shapes is inexcusable this far down the track. *Art Expression* is a step in the right direction but certainly seems to have some shortcomings which would make me wait for the indicated future update along with *Pagestream* V3.0. ❑

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Motorollin' Along

68060

the Next Generation

What will the Amiga be like with the soon to be released 68060 strapped inside it? Alex Krooglik checks out the future.

It is no secret Motorola have been working on an advanced processor to succeed the 68040 for some time now. You may have been expecting a 68050. Well, Motorola considered their new processor more than simply a step up from the 68040, and with just cause. The 68060 stretches the boundaries of CISC (Complex Instruction Set Computer) computing to new levels through both new and upgraded microprocessor features. Let's have a look at some of them.

Speed

Let's begin with the most important criteria: speed. This chip is so fast that Ben Johnson and his steroids would be left in the starting blocks well after you've crossed the finishing line. The first production chips scheduled for the first half of 1994 will clock in at 50MHz. They will also operate at around 70 to 90 MIPS (Millions of Instructions Per Second). To put this in perspective, your unaccelerated A500 runs at 1 MIP with a strong tailwind. The A4000 manages about 22 MIPS on a good day.

Motorola have also adopted a scalable architecture for this chip. This means that super fast versions (Motorola have plans for 66 and 100MHz versions in late '94) and cheaper versions (like the 68EC060, which is just a 68060 minus the Memory Management Unit (MMU)) will become available. So there will be a broad range of chips to fill many duties, from desktop and home computing to serious grunt work stuff like networked Unix.

"This chip is so fast that Ben Johnson and his steroids would be left in the starting blocks"

The 68060 has a full 32-bit data and instruction bus design. I haven't actually seen the full pin out diagrams for it, but I am pretty sure it will be pin compatible with the 68040. So A4000 owners can look forward to Commodore announcing some sort of 68060 board for the CPU slot some time in 1994.

This does have drawbacks, however. To really get full advantage from the 68060, it must be able to talk to the computer at the same speed it runs at. i.e. 50MHz. But the AGA chipset is still 28 MHz. I have heard talk of Commodore introducing an asynchronous bus design for the future range of high end "AAA" chips. This is a must if they're to keep up with future processor advancements such as the 68060. I am almost too scared to think how amazing the future Amigas will be.

Increased parallelism

An interesting feature of the 68060 is its increased parallelism. It has a superscalar pipeline microarchitecture. This basically means that the '060 can dispatch two or more instructions per clock cycle. It also has a new caching system called a Branch Cache (pronounced 'cash'). The basic purpose of any cache is to alleviate the processor having to perform off-chip access, hence increasing execution time and reducing processor latency.

A cache, however, can be made inefficient if it frequently has to be emptied, such as when a change in program control is encountered through a branch.

The Branch Cache attempts to counter this by predicting the direction of a branch based on the past execution history of the operand, hence giving the processor time to update its internal registers and status to remove any over-

head otherwise incurred. Simply put, the Branch Cache makes all on-chip caching activities much more efficient, which increases processor speed drastically. The 68060 also includes separate on-chip 8k data and instruction caches.

Number crunching

The 68060 also possesses dual integer and floating point arithmetic units (IPU and FPU, respectively). Unlike other parts of the 68060 though, the IPU and FPU do not possess superpipelining. This is hardly a disadvantage really as the arithmetic operations on the 060 are highly optimised. For those of you familiar with processor timing, a 68020 executes a DIVU.L instruction in 79 020 clock cycles; the 68060 executes a FDIV instruction in 24 060 clock cycles.

This makes the 060's floating point operation almost 10 times faster than the 020's integer operation. Adding a 68881/2 would reduce this margin considerably but until more detailed information is released (in the form of the MC68060 User's Manual) this sort of comparison is really very rough. The 68060 can also perform integer and floating point operations simultaneously. Users out there who do a lot of raytracing are going to be simply blown away by the 060!

Portable Amigas?

The Amiga's custom chips are designed around Transistor Transistor Logic (TTL), which requires quite a lot more power to run than the more common CMOS circuitry used these days. When the Amiga was being designed back in the early 80s, no provision or thought was given to a low power consumption as the designers wanted to extract maximum processing power from the custom chips.

Simply turning TTL chips into CMOS chips is not so simple, for reasons best discussed elsewhere, and is also quite expensive. However, the 68060 may change all that. Unlike previous 680x0 chips which ran at 5V, the 68060 runs at 3.3V. This makes it MUCH easier to slip into a portable system. Also, there are a number of other features that endear the 060 to portable computing.

Power consumption is proportional to the square of the voltage. Reducing the voltage requirement from 5V to 3.3V lowers the power consumption of the chip about 50%. Coupled with this, the 060 also has a special command (called LPSTOP) that puts it in a "sleep" mode, which severely reduces power consumption while the chip isn't in use. But that's not all. The 68060 internals were designed in a modular fashion and each one of these modules can be disabled through software.

This means, for example, that if you're doing digitising, say, in the snow, you've really got little need for floating point arithmetic, so you can disable the FPU and thus save power. Motorola claim a 250% increase in battery life with these new features. The 060 also produces considerably less heat than its cousin the 040, obviating the need for fans and heat dissipating fins.

Now, if Commodore were to design their AAA chips around CMOS logic (which they would be dumb not to), we could well see a 68060 based portable Amiga in a couple of years' time. Don't hold your breath waiting for a 68040 or 68030 based portable Amiga. These chips simply consume too much power and it really isn't feasible to redesign them for portable operation.

Disadvantages

Well, about the only thing I can see a problem with at the moment with the 68060 is its 32 bit bus. You might say : "But you're never going to use 4 Gigabytes of address space!?" Well, this may be true, but exactly the same thing was said in the early 80s when this very familiar phrase was spoken : "But you're never going to use 16 Megabytes of address space!?"

Nearly everyone who has ever done any serious computing will know that 16 Megs is not really that much and can be easily consumed. Granted, neither you nor I are ever going to need Gigs of memory, but if the Amiga is to be taken seriously by high end users, a 64 bit bus is imperative.

Also, now that 128 Mb SIMM modules are available, equipping a computer with 1 Gb of RAM (corresponding to 8 x SIMM modules) won't be difficult, just very expensive. The Pentium (P5) chip from Intel has a 64 bit data bus and has very similar specifications and speed to the 68060. The next generation Intel chips, codenamed P601 and P602 and due out in 1994 or 95, are supposed to make the P5 chip look slow.

With this sort of competition breathing down Motorola's neck, expect to see some real contention going on in the usual form we all know about "Which is better; Motorola or Intel?"

There is also a rumour that Commodore may be teaming up with DEC to utilise DEC's Alpha RISC chip. This chip is totally 64 bit, runs at 200 MHz and has a peak theoretical output of 400 MIPS! Whoaaa! Don't ask me how Commodore might move to a 64 bit bus or adapt a 64 bit bus to fit a 32 bit bus, but this furiously fast chip might make it into an Amiga in the near future. Only time will tell.

Conclusion

You have just glimpsed into computing of the latter part of the 20th century. The 68060 is real, expensive and will be available in the first half of 1994. Commodore's Engineering Chief Lou Eggebrecht has already stated emphatically that Commodore intend to use the latest technology with their products and Commodore and Motorola have been chums for a long time.

I have some preliminary information on the new generation of AAA chips Commodore are working on (released at the World of Commodore in Toronto, December 1992) but that is really an article all by itself. I am sorry if not all of this article made sense to you, but technology is moving too quickly and describing a chip as complex as the 68060 is not easy without a basic background in microprocessors. If any readers are interested in the technical information I have from Motorola on the 68060, please contact me. ❑

Your Right to a Backup Solved

Daniel Rutter reviews a program which promises to help keep your software library on one piece.

Copy protection is a problem. If you buy a program (usually a game) which has on-disk copy protection, you can't make a backup with most software, and in some cases not with any software alone. You see, disks are divided up into tracks like a record, except each one is complete - not concentric. AmigaDOS expects tracks to be in certain places.

The software's authors add nasty things like unwritten tracks, tracks starting in unexpected places and marked with unusual sync words, and other disk format gremlins with the sole intent of making your computing life miserable.

Of course, you can use the original disk without problems, but if it should turn its toes up sometime there's a decent chance your beloved, though no longer young, program won't be replaceable.

The need for a backup

This is where software/hardware copiers come in. They include high powered copying software, and a dingus to plug into your disk drive port that gives you a fighting chance of bypassing even the most powerful protection. You just plug an external drive into the back of the gadget, press the right buttons on the screen and copying takes place.

The latest effort in this field is PowerCopy Professional, sold by Power Peripherals. It's the usual arrangement, and will copy just about anything the disk drive can read - if it can't copy it, there's a good chance the disk is stuffed beyond legibility anyway.

Up and running

Setup is dead easy - plug in the box to your drive port, plug the drive in the back, stick in the PowerCopy disk and you're away. The copy program screen itself doesn't look very professional, but with a little reference to the slim but comprehensive manual it's not hard to nut out.

I tried PowerCopy out on a few protected disks, and it did very well, although you do have to jockey the options around a bit unless you want to do the slowest copy modes on every disk.

PowerCopy does have a few unusual features, on top of the usual index sync, verify and so on. If you ask it, it'll speak its status and selection messages - handy to find out a copy's finished or fouled up when the Powercopy screen is not frontmost. You can also hand-adjust the rotation speed of your target drive, provided it supports motor speed changes (mine did), so that long tracks can be correctly written via the PowerCopy hardware.

You can also write RAM direct to disk tracks - not awfully useful - or construct your own A1000 type KickStart disk by writing your KickStart ROM to floppy. Doing this for any purpose other than recovering a dead KickStart disk is, of course, illegal.

You can also alter drive step rate and head settle delays, to make your drives marginally quicker. PowerCopy is fully hard disk installable.

Hardware included

When I was testing the system, I naturally wanted to know what was actually inside the PowerCopy hardware unit. I know some efforts in this department have just been a few rewired connectors which any schmuck with a soldering iron could knock up in 20 minutes. So, in the spirit of journalistic enquiry, I tried to get the lid off the hardware.

After groaning and turning purple for a while, I had managed to flare out the metal all round the lid but the thing itself wasn't going anywhere. I wedged the end open a bit and peered in to find out why - the circuit board inside was glued to its case on both sides with a whopping great gob of adhesive.

It was demonstrably going nowhere, so there my investigation ended - but it certainly seems the hardware can't be all that complex if they're so worried about it being pirated as to goop the whole thing solid.

A few extras

One nice thing about the PowerCopy package is that it includes a few miscellaneous utilities, which aren't mentioned in the small but very comprehensive manual, which is helpfully duplicated on disk - but, unhelpfully, not properly connected to its icon, which is an unusually sloppy error.

There's PowerPic, a picture hunting utility which helps you grab pictures from non-DOS programs by searching through RAM.

There's PowerFont, a program to display all of your system fonts with many options. PowerMem lets you scroll through your memory map - it doesn't do much else though. And PowerBoot lets you examine, back up and restore bootblocks from and to floppy disks.

It's not hard to install PowerCopy onto hard disk - just drag the drawer - but you have to hand-install a font file if you want to use the other utilities. This is not at all hard, but could mystify beginners. Everything works fine if you boot the PowerCopy disk, but since PowerCopy multitasks (unlike some high-powered copiers), hard disk users probably won't be happy with going back to floppy.

Conclusions

On the whole, PowerCopy does what it says. If you can't back up a disk with this package, it's a wonder the computer could read it in the first place. There's still some rough edges on the program and I'm highly dubious about the hardware, but all in all it's a worthwhile purchase for anyone who wants to ensure that their investment in their beloved games isn't wasted.

Distributed by Power Peripherals (03) 532 8553. ❑

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Quarterback Tools Deluxe

Rescue is at hand

by Andrew Farrell

Since Workbench 2.0, it is less common to see unvalidated hard drive partitions. However, we end users seem to be quite apt at finding new ways to lose valuable information. Quarterback Tools promises to help get it back.

The new Deluxe version sports a brand new interface, compliant with the latest operating systems and offering a wider range of functions. The package now includes a number of other utilities to make up a whole suite of useful file and disk maintenance tools.

What's it good for?

If you've ever accidentally deleted a file, found a read error in the middle of something important or wanted to speed up a badly fragmented drive, you'll know how valuable the right recovery tool is. The time from when you click okay on the delete requester, to when you realise you've erased the wrong file is normally measured in milliseconds.

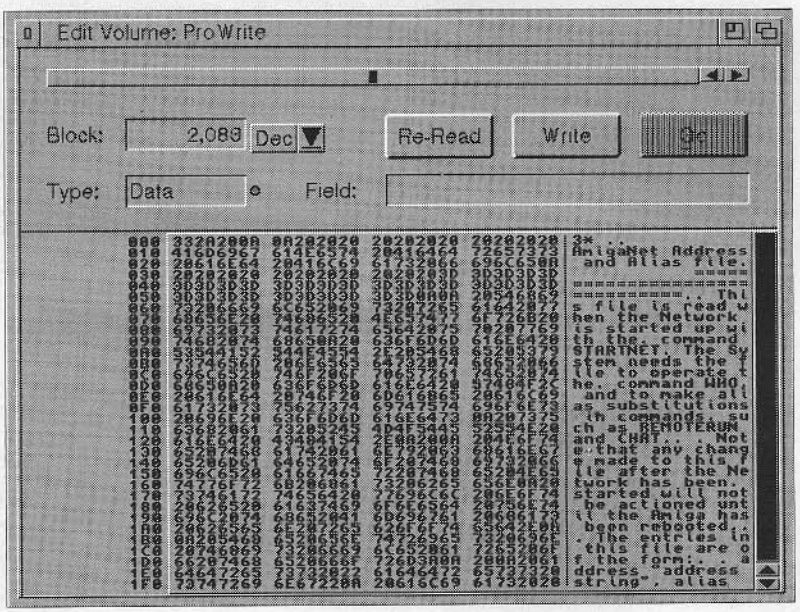
Fortunately, the way AmigaDOS - and most other disk operating systems - handles file deletion allows for undeletion. This is normally totally successful with *Quarterback* providing you have not written anything else to the disk in question.

Various other weird quirks of AmigaDOS are taken advantage of too. For example, as files are stored to disk, they are normally arranged haphazardly. As the disk spins around, the next chunk of the program is stored on whatever blank piece of disk real estate happens to pop up under the hard drive's write head next.

The result is that one file is actually spread around the disk. Of course, AmigaDOS knows how to find all the separate bits when you ask to retrieve the information in question - however all the shuffling around slows things down. By reorganising the file so that it is stored in consecutive chunks, loading time can be dramatically reduced. This is called defragmentation and is one of the primary housekeeping tasks of *Quarterback Tools*.

Quarterback is also a must have for disaster recovery situations - where parts of your disk are badly damaged and the information appears irrecoverable. *Quarterback* will happily chug through most situations and recover whatever's left.

The Disk Track and Sector Editor offers low level modification of your disk contents



Up and running

You'll need Kickstart 1.2 or better - but Kickstart 2.0 works best - along with at least 512K of RAM for floppy or 1Mb for hard disk. As usual, the more memory you have the better. Installation is reasonably easy, just drag the icons to where you want them. You can adjust a number of icon tool settings for various startup options such as the preferred screen mode and file-requester.

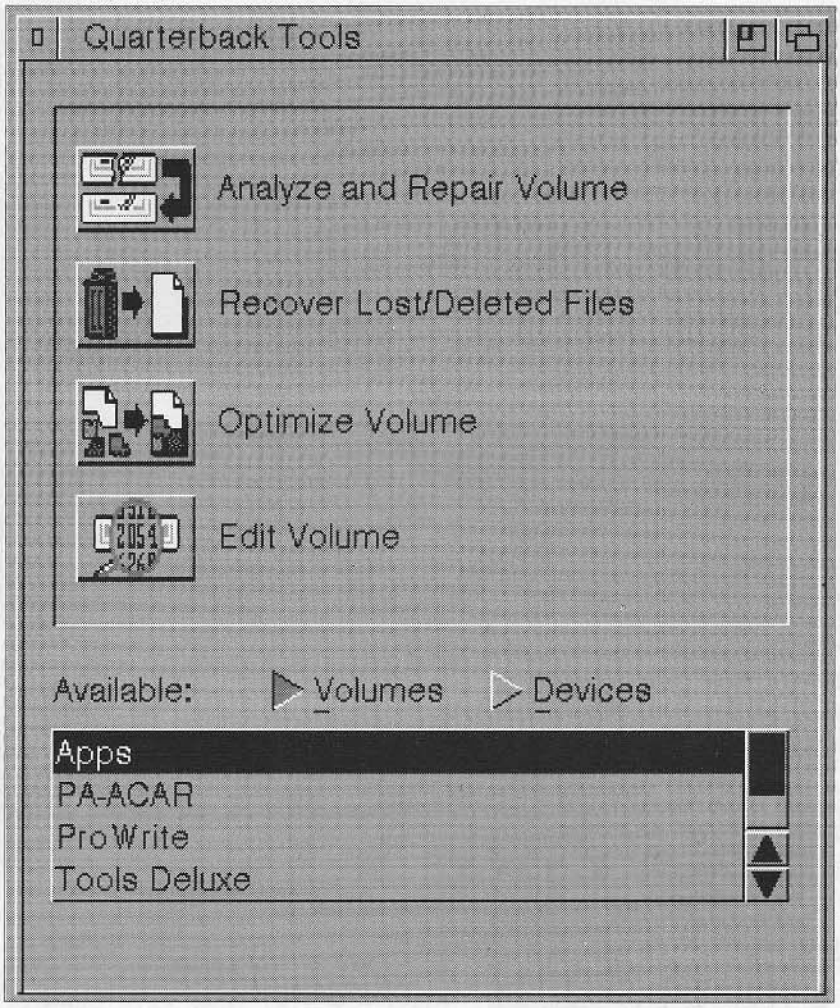
Once you're running, you begin by selecting the drive on which to operate by volume or device name. You can view information about the file system, status, volume name and size, device name and configuration. It's all there, but for most of us it's fairly meaningless. The main line to look at is Status under the volume information. If there's a serious problem, this line will report it.

The manual is good at explaining the sorts of problems you're likely to run into and how you can fix them. In practise, *Quarterback* seems to make a lot of the decisions for you once you start checking a disk. For example, you night get a message that there's a number of bad blocks on your disk. A suggestion will pop up telling you what to do. If you don't cancel, *Quarterback* moves to the right part of the program and gets on with it. This makes recovering a lot simpler for beginners.

Of course, it's important to read the requesters as they pop up just to be sure you know what you're in for. I found myself two steps behind the program at times. Thankfully, it works very well and I had no problems whatsoever in recovering several major disasters we had in the office recently.

Undeleting

I was hoping they might find some trick way of making the Undeleting option a little faster. The file requester in this and other parts of the program requiring you to select what to recover is a little unusual, however it's better than before and works well once you're used to it. There is unfortunately no way to speed up undeletion due to the way AmigaDOS arranges directory information about your disk.



Tools

Optimization

Defragmenting is too much of a mouthful - so *Quarterback* calls it Optimization. And so it is! As long as you're careful in administering this dose of medicine to your system, it is the simplest way to enjoy some benefit from the program. We ran a few tests over a number of sluggish old work partitions and I have to tell you the increase in speed was very noticeable.

Edit Volume

Not for the faint hearted - this function allows you to physically alter the contents of a disk directly - so it can be dangerous when used haphazardly. Edit Volume is great for sneaking a look at games - trying to find text you have not seen yet. It can also be handy for recovering really badly trashed text. I used it to alter *FA-18* to run from my hard disk by changing occurrences of DF0: to DH0: with some help from the Find option.

Bells and whistles

The favourite of every software company's marketing department - that wonderful list of things that make this product different. Well - when it comes to disk utilities the best way to beat the opposition is by doing the same thing faster and more reliably. We'll leave that one for our head-to-head test next month.

QuarterBack Tools does offer a number of nice features such as a good preference control, Macros and AREXX support. Most functions can be accessed from function keys, although the biggest

improvement in this version of *QuarterBack Tools* is certainly the interface. The program also seems more solid all round.

Other utilities

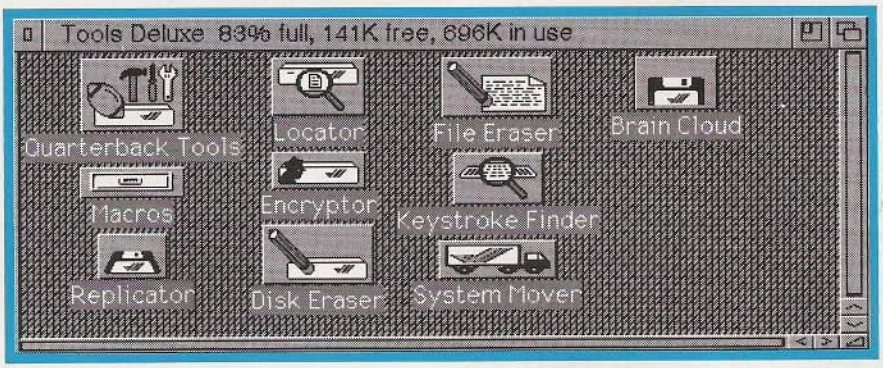
In the "for good measure" department, you'll find a bunch of extra programs which although not necessarily the best of their kind, are well worth having.

Replicator copies disks - and can save a disk to another device such as your hard drive as a file. This could be useful for PD libraries or archiving purposes.

File Eraser does the job of deleting files so you can't get them back. This is important if you're cleaning up a hard drive for sale, or preparing a floppy for distribution and there's certain files you need erased for good.

Disk Eraser does the same trick on a disk by disk basis. It uses - are you ready for this - US Government Erasure methods! Wow, now I'm impressed.

Other odds and ends include Keystroke Finder, System Mover and an interesting one - Brain Cloud. This little number protects a floppy from standard AmigaDOS destructive commands like delete and format. Great for bullet proofing a disk - it also stops the files on it from being altered.



Main Menu

Conclusion

Quarterback Tools is better organised than *AmiBack Tools*. The file requesters are better and the program works in a more logical fashion. We'll be running a few exhaustive tests to compare these two programs head to head next issue. My hunch is that *Quarterback Tools* will win. It's a pleasant package to use and the new version has already recovered a number of nasty accidents without a hitch. I recommend it.

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CanDo 2.5 Upgrade

CanDo is a product that is improving with age, writes Jeff Wilson

At the World of Commodore Show at Darling Harbour, I talked to the people from INOVAtronics and in particular, to Eddie Churchill, one of the authors of Cando (the designer of the Graphic User Interface, GUI).

I asked Eddie about some features that I would like to see implemented into CanDo and he had the following answers:

Jeff: Can tracker modules be played from CanDo rather than using a player through the Dos command module?

Eddie: Support for all popular music modules is now supported through the use of the INOVAmusic.library.

Jeff: Will this new player allow 8SVX sounds to be played through while the modules are playing in the background?

Eddie: No one has ever asked for this feature to date but I will look at implementing this when I get back and start work again. *(The music player does allow pausing, see below for more details).*

Jeff: When will double buffering be supported? *(This is the ability to draw on one screen while displaying another and then swapping them, allowing for flicker free animations).*

Eddie: This will require a full rewrite of the graphics portion of the program but will be looked at in the future. (Maybe in version 3 which is being written shortly).

Jeff: When will a compiler be available for CanDo?

Eddie: Probably never. This is not to say that it is impossible, but that one will not probably be made available to the general public. Obviously one is already being used as CanDo is written in CanDo. At best I would envisage the libraries being broken up into separate components, enabling you to only bind to the libraries that were required by your program.

(The reason that INOVAtronics are reluctant to release a compiler is that a lot of their business comes from corporate customers that they produce decks for and thus they risk losing a lot of these if a compiler was generally available. I think it is worth writing to INOVAtronics and asking for the compiler and maybe persuading them that a lot of people would buy such a product).

Jeff: What new changes can we expect from future versions?

Eddie: Commodore have requested that we only support WB3.0 as they would like people to move up to this platform, but although we would like to comply completely, we know that not all people can afford to move up with each platform change.

So we have made CanDo fully compatible with version 2.1 of the WorkBench and up. (Presently 2.5 is compatible with older versions also as long as you remember to licence the AmigaGuide and ASL requester libraries from Commodore to distribute with your programs. The licence does not cost anything and only requires the filling in of paperwork and submitting back to CATS in the USA).

As you may have guessed from the above conversation, the latest upgrade to CanDo, this being version 2.5, was available at the WOC and is now available through the Australian distributor of INOVAtronic products, Desktop Utilities of Canberra. Unlike its predecessor, version 2.0, this upgrade packs a punch with many new and improved features.

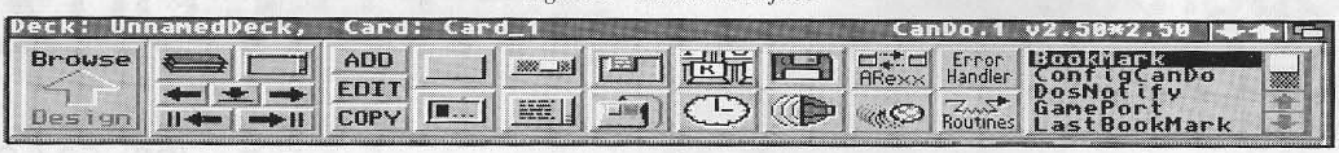
On the surface is the inclusion of the ability to play sound modules from all the popular sound sources through the use of the INOVAmusic.library which is also included as part of *DirectoryOpus 4*.

The sacrifice for some of these new features of course is that they will only work on machines with 2.1 up of the operating system. But this can be overcome by obtaining a distribution licence from Commodore for these two libraries.

Interface changes

Starting at the beginning, the first noticeable change to the program is the

Figure 1 - the new interface



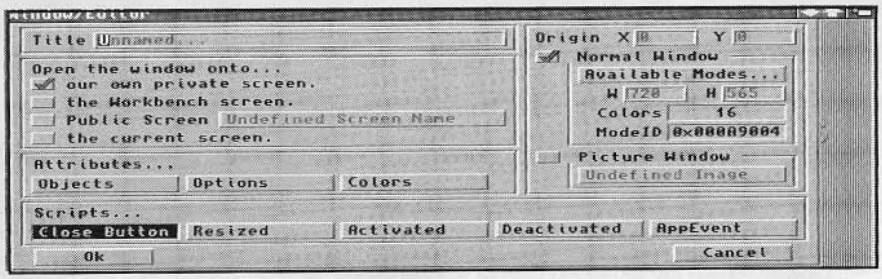


Figure 2 - the new window input screen

main panel interface. Most are still recognisable, although all have taken an icon change and most a position change also. See picture of front panel. Figure 1 shows the new interface.

Much more has been added to the front panel by changing the size of the icons, ie making them smaller. Also a list of extra tools is now on the left of the Main Panel to allow you to select the extra tool direct.

The window icon has been moved up beside the card editor icon. Clicking on this icon also brings up a completely different screen as was shown in previous versions. It now has input for all the new features of the operating systems - mode promotion support and overscan screens. Figure 2 shows the new window input screen.

The edit routine tool has been added back to the control panel, which I regard as an advantage. Although they were accessible through the menus in the previous version, it is much easier to click on an icon and access the routine required directly.

As mentioned above, AmigaGuide support has been added into this version of CanDo and this is also implemented into the inbuilt Online Help feature. The script editor of the lexicon help now supports the standard hypertext feature that is becoming a standard through the use of AmigaGuide by many programs. This is worth remembering when producing your own programs that will have text files for the use of the end user.

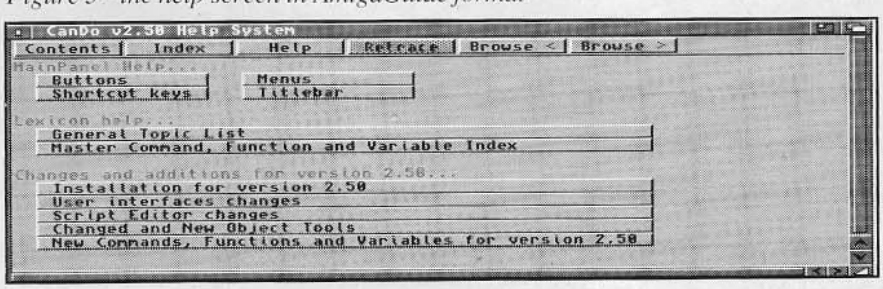
Easier to use

Help itself is obtainable at anytime through the use of the help key. If pushed from the main screen then the main contents will appear whereby you can proceed to go into the vast maze of help available. The second way to get help is to press the help key when the cursor is above a keyword when in the script editor, allowing fast lookup for a command etc. No changes have been added for the manual itself as it is regarded adequate to provide all new information as online help. Figure 3 shows a shot of the Help Screen in AmigaGuide format as you can expect to see it now.

A new tool has been added for this version known as the SuperMover. This tool allows you to move groups of objects such as buttons around the screen in one step. A list is shown on the left side of the requester that shows all objects that may be moved. To select which ones you would like to move as one, just click on their title in the list whereby a ">" symbol will be displayed before their names marking them for moving.

continued on page 32

Figure 3 - the help screen in AmigaGuide format



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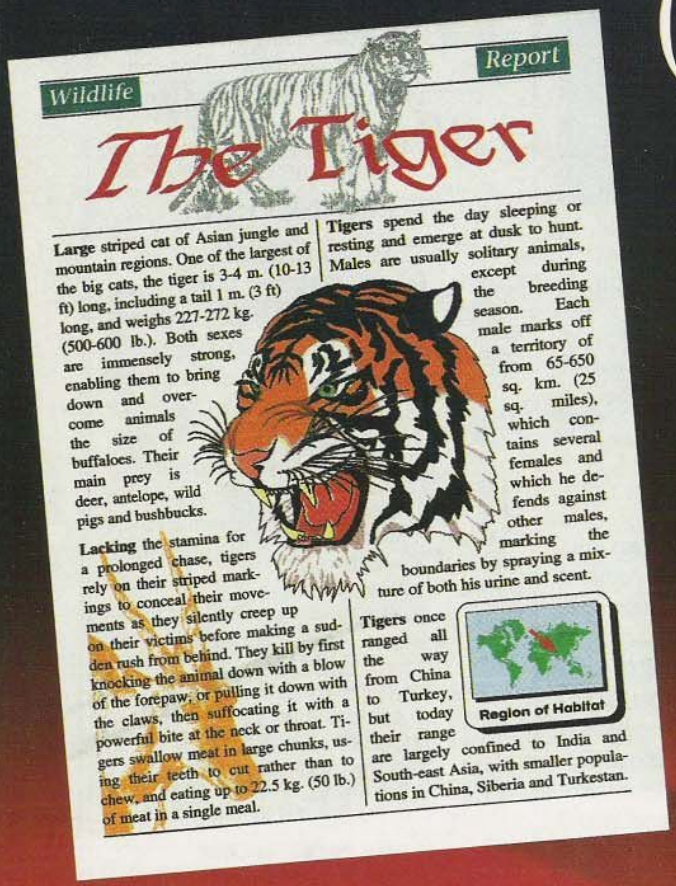

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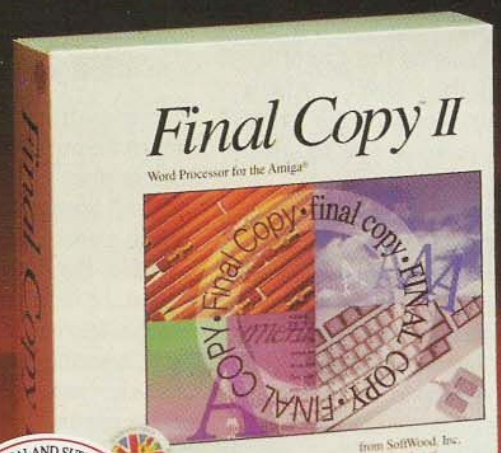

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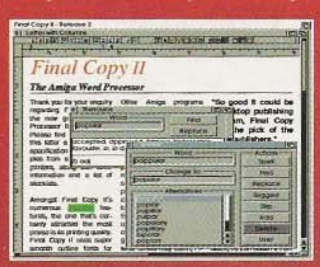

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	PostScript Font Outlines on all Printers	NO	YES
	Maximum Number of PostScript Fonts	Limited to a total of 35	Infinite
	Download Extra Fonts to PostScript Printer	NO, Can't download extra fonts	YES, Automatic
	Landscape (Sideways) Printing on all Printers	NO	YES, Automatic
	Reclaim Printing Resolution (Quality) of Scaled (Reduced and Enlarged) Graphic Images	NO	YES, Same High Quality when Reduced and Enlarged
	Print any Text or Graphic in Colour	YES	YES
	No. of Colours Printed in Imported Pictures	Limited by Screen Mode Used	Output as Original Image
	Graphics Printing (HAM & IFF ILBM)	Good if Graphics not Scaled	Always Best Possible
	Text Width (Compress and Expand)	NO	YES
	Variable Text Obliquing (Slanted Text) Both Positive and Negative Attributes	NO	YES
Graphics	Box, Rounded Box, Circle, Oval, Line, Variable Border & Arrow Drawing Tools	NO	YES
	Crop (Trim) to Size Imported Graphics	NO	YES
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	Create Border around Graphics and Pictures	NO	YES
Editing and Formatting	British-English Spelling Checker	YES, Collins Proximity with Legal & Medical Supplements	YES, Collins Proximity with Legal & Medical Supplements
	British-English Thesaurus	YES, Collins 826000 Synonyms	YES, Collins 826000 Synonyms
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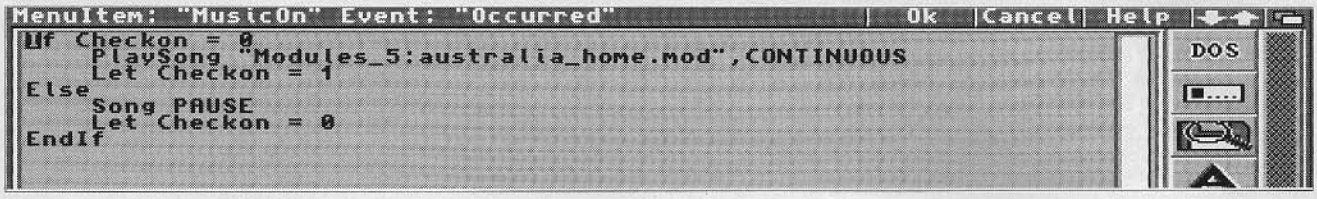


Figure 4 - turns a music module on and off

You then set the x, y values for the move and push the move button which will do the actual move.

The new music module playing commands give quite good control over the playing of music, with various commands such as pause and continue which allow the module to be paused at any stage and then continued from where it stopped and not from the beginning. (See example script that is a menu toggle item that turns a music module on and off each time it is chosen). Figure 4 shows a screen shot of a script that explains the above and also illustrates how easy it is to produce something in CanDo.

To play 8SVX samples through the music as mentioned above, you would just cease the music with a pause, play the sample out of one of the channels, use a delay to allow the sound to end and then play the module again. This is cludgy but still very effective until such time as this feature is implemented into CanDo. One thing to take note of is that a critical delay will have to be implemented to allow the sound to play prior to the music starting again, otherwise there will be confusion when the module tries to take control of the sound channels again and the 8SVX sound sample is still going through it.

Another approach to this is to use a music module that only uses three of the four channels and then send to sound out of the fourth channel that was not being used. The advantage to this is that the delay timing doesn't have to be so critical as it does with the previous method mentioned above.

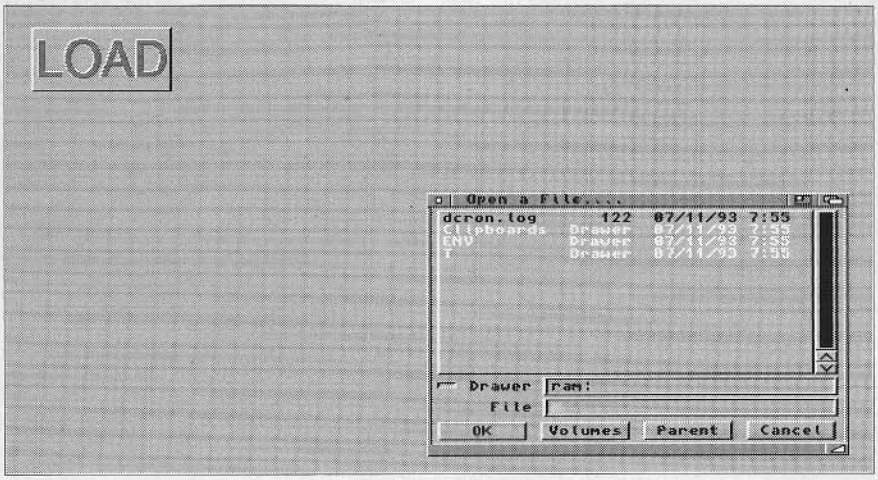
Better file requesters

One of the things that people complained about with the final product of CanDo was the big cludgy file requester that it had. This has now been improved with the inclusion of the ability to use the ASL.library. This means that it not only has a much better looking file requester but also once again, a standard Amiga feature. Figure 5 shows a screen shot of a very quick example I did to produce the file requester. The load button is just a button that has a script to invoke the file requester.

The font requester now fully supports Compugraphic and Colour fonts. The font requester also supports a cache now so that loading of the fonts after the initial load is much faster.

The BigEd mode of the script editor that allowed for the setting of a higher editor has now been removed as the editor has been enlarged as standard allowing for nine editor tools to be visible at any one time. One thing I found annoying is that the OK, Cancel and Help buttons have been moved to the top right of the editor. I'm sure that with time I'll become accustomed to the new interface of the editor and not notice the change, but at present I keep pushing to the old position.

Figure 5 - a quick example of the file requester



The future

I'm looking forward to writing a complete project with the new version of CanDo 2.5 and feel that the cost of the upgrade was money well spent. There are other cosmetic and minor command changes that were not mentioned above, but my thoughts on this version is that INOVAtronics are already listening to what the end user requires and with future plans for CanDo, it can only get better. Go out and upgrade your CanDo now, you won't be sorry.

The conversation with Eddie Churchill was inspiring and built a lot of confidence into the use of CanDo. INOVAtronics are serious about this product and have many plans for its future. It isn't a product that has been written and then dumped onto the general public, for better or for worse, but a living, breathing product that is constantly improving with age.

The mind boggles as to what will be found in version 3, which is currently being written, but I guess we'll find out soon enough.

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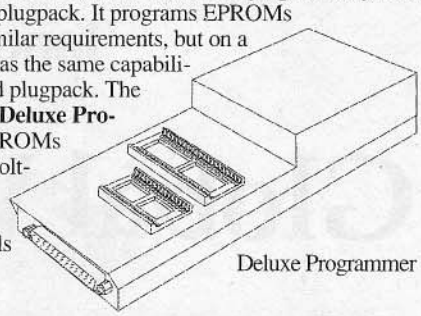

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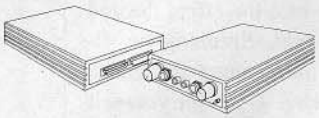

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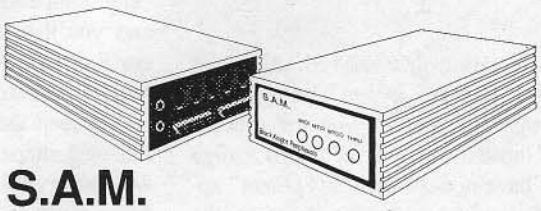

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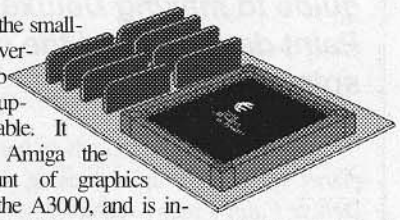

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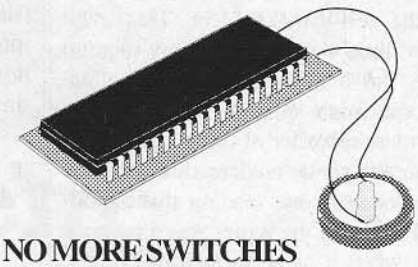

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Deluxe Paint's animation feature leads to

Global Whirling

Graham Bowden continues his unrelenting guide to making Deluxe Paint dance ... and the odd spinning planet.

Question ... Is it difficult to create a planet spinning in infinity using any of *Deluxe Paint*'s many features?

Answer ... Would I ask a question like that if the answer was no? In fact using the following simple tricks it's very easy.

Before we progress, allow me a short digression. Whilst heavily involved in writing this tutorial, I chanced upon an overseas Amiga magazine in my local newsagent which had an article dealing with the self-same subject. This may seem of little significance to my regular readers but it left me with the feeling that some might consider me a plagiarist, a mere rehasher of other's articles.

Dear and gentle readers, this is totally unfounded. Anyone reading that article should note that the writer was a relative novice when it came to *Deluxe Paint*'s bag of tricks to complement the artist's abilities. Further explanation will be upcoming a little later, for now let's begin our creation.

Into space

Our planet will require a rotating disk (planets appear roughly disk shaped after all), a surface map from which will be made a surface animbrush and to add realism, a "shadow" animbrush. Also for the purposes of this tutorial, 34 frames of animation will be used.

In the past we have constructed a basic circular "planet" across which a pair of rotating dice moved. Although the result of that was um .... enthralling shall we say, anyone who constructed one of those models on their own Amiga would have noticed that the "planet" appeared very false. In fact because the disk representing the sphere was not itself rotating it gave the appearance of looking through a circular keyhole at a spinning surface. For this month's effort we'll progress to a very simple method of producing a more realistic globe, something which didn't appear in "that overseas" article.

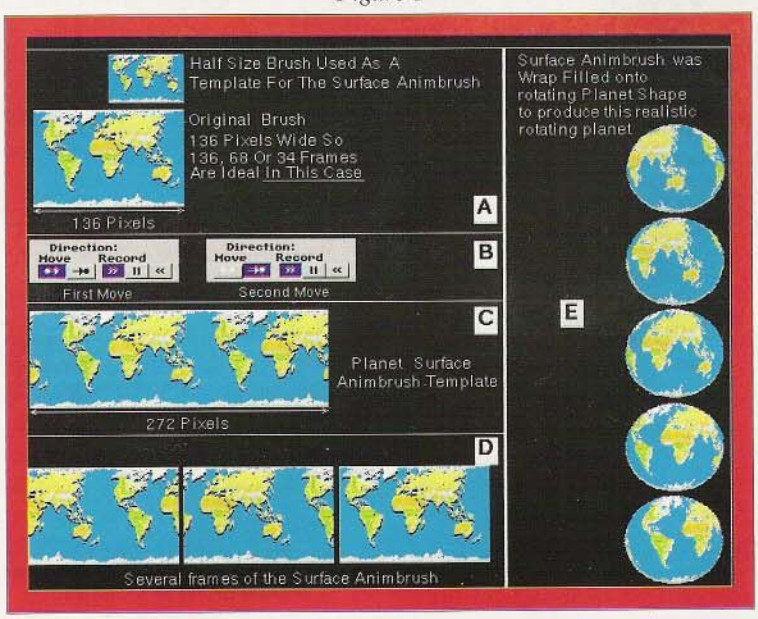
Creating a simple spinning disc requires no more effort than to pick up a filled circle as a custom brush, ensure the brush handle is exactly in the centre of the circle, make some animation frames (in this case 34), call up the Move requester, enter 360 in the "Z" angle box, then it's click "Draw" McGraw. I know, very droll but I can't help myself.

Actually planets, worlds, moons or whatever are never perfectly circular. Our Earth, as created in Figure 1E, appears as a slightly "squashed" circle, an ellipse if you like. But using a filled ellipse as a brush and rotating it as was just done to the above mentioned filled circle will not produce the effect desired for a spinning world. Spinning an ellipse on its "Z" axis causes the entire "egg" shape to rotate. Try it for yourself and you'll soon see what I mean. For our Earth the squashed appearance must remain constant.

To keep the shape constant (to keep the egg shape horizontal if you like), why not try this. Pick up a suitably sized filled circle as a brush, enter perspective mode (Keypad "Enter"), tilt the brush on its "X" axis (Keypad 7 or 8) until the circle is suitably distorted, stamp it down then call up the Move requester and spin the brush through 360 "Z" axis degrees while perspective remains selected. You could also have picked up the spinning disk described in the previous paragraph as an Animbrush and tilted it in perspective before drawing it back down, the effect would be the same. Whatever method is used, pick the finished article up as a new Animbrush and save it.

For the surface brush a map of the world is needed. This is easily obtained from the "Picture" drawer on the *DPaint*

Figure 1



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4 No.1 art disk. Once loaded as a brush hit the "h" key to halve its size then a couple of dabs on the "-" (minus) key to shrink it a little more to keep everything to a manageable size. Oh and select "Use Brush Palette" from the Color/Palette menu to ensure the world is of a reasonably natural colour.

Now we'll create a surface animbrush. To do this we'll need to know how wide - in pixels - our Map-Of-The-World brush is. There are a couple of ways to do this. "That" article suggested stamping down the brush, turning on the co-ordinates in the title bar [<Shift>\] then select the "Line" tool and carefully draw a line horizontally from one end of the brush to the other while taking note of the left hand co-ordinate number. Did you get all that? I'm glad but listen, here's an easier way. Make sure the brush you're holding consists of only the map (ie no transparent border) and call up the Perspective Settings requester via its menu item or right mouse click on the Grid tool icon while in Perspective mode. The "Grid" number under the letter "X" is your brush's width. In MY case the width was 136 pixels. My Map-Of-The-World brush was therefore going to have to move 136 pixels in however many frames I decided to use in order to produce a surface animbrush.

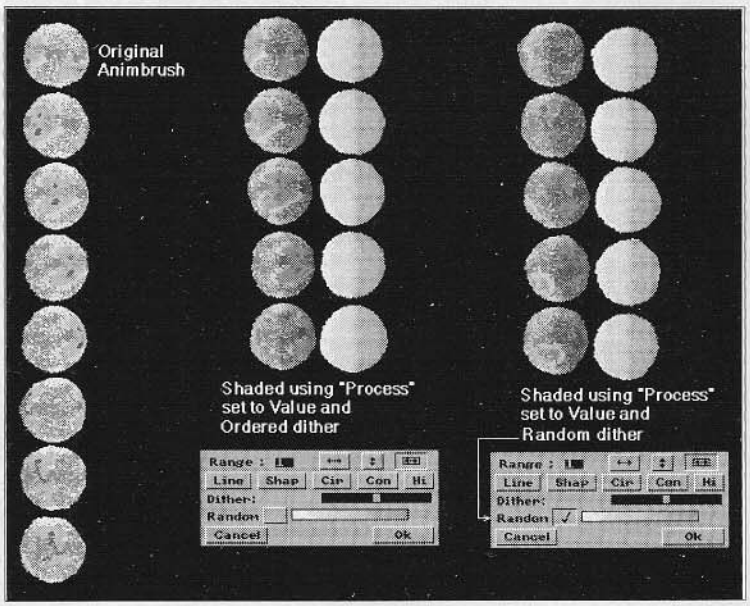

Figure 2

To allow any planet or world to rotate smoothly it is necessary to have an even motion between frames. This meant that for my case in THIS instance I would

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need 136 frames (1 pixel advance per frame) or 68 frames (2 pixels per frame) or 34 frames (4 pixels per frame). I chose 34 for speed of rendering but 68 frames would generate a smoother animation. I leave the decision up to you for your own attempts, for now we'll continue with 136 pixels over 34 frames as we move onward and upward.

Stamp the brush down, call up the Move requester, enter 136 in the "X" distance box, ensure the Count: is set to 34 and the Move Direction: is set as per First Move in Figure 1B before clicking Draw. When *DPaint* has finished drawing we have half our surface brush completed. For the second half of the surface brush recall the Move requester, click "Go Back", set the Move Direction: as per the Second Move in Figure 1B and click Draw.

"That" article would have had you carefully stamping the Map-Of-The-World brush down again in frame one beside the original brush before recalling the Move requester and once more moving the brush through its 136 pixels in 34 frames. Our way is far simpler. With our method, every frame except frame 1 will appear as variations of what's shown in Figure 1C. Frame 1, the exception, will be as depicted in Figure 1A. "That" article's method, besides being more "fiddly", would also have every frame a variation of Figure 1C and although the difference is small it makes picking up the actual animbrush a tad harder for some planetry rotations. More on this mystery next month, let's stick with mother Earth for now.

Now for the surface

For the rotating Earth surface we need an animbrush the size of exactly half of the world map in frame one (Figure 1A). How does one determine how much is half? Why, simply pick up that map in Figure 1A then tap keyboard "h" to halve its size before stamping it down above the full sized map where it can be used as a template to easily gauge the half-way point for the animbrush. All we need to do to pick up the animbrush is to select Animbrush>Pickup from the Anim menu, carefully box exactly half the map picture in animation frame 1, (remember, no borders, pick up only the picture's pixels) and select 34 frames when the animbrush requester appears. When the action stops, save the animbrush.

Now to the Piece-de-resistance, creating the home spun world itself.

Clear all frames of animation and reload the original rotating disc animbrush. Stamp it down in frame 1, hit "u" (Undo) and <shift>-7 (moves the animbrush to cel 1) then call up the Move requester. Ensure that all the Dist: and Angle: boxes are set to zero and the Move Direction: is set to the First Move position as shown in Figure 1B before clicking Draw.

Once this animation is completed reload the world surface animbrush, then call up the Fill Type requester (<shift>-F) and select "Wrap" as the fill type. As explained last month this fill type allows us to wrap our current custom brush

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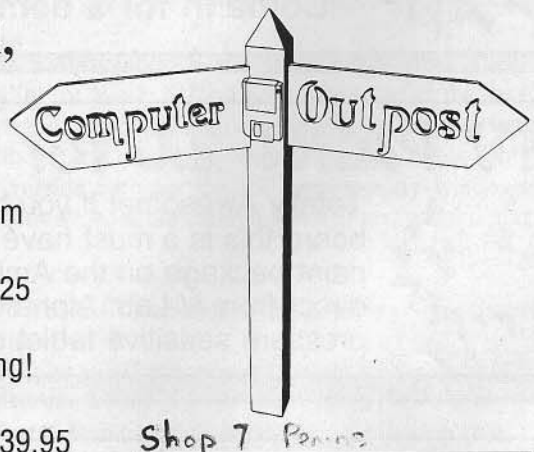

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around the face of whatever shape we are filling. If the shape is a slightly squashed circle and the current custom brush is an animbrush of the world's surface then we'll create a spinning world.

Exit the Fill Type requester by clicking OK, then select the Fill tool and while holding down the left "Alt" key begin filling the rotating disc shape. Pressing the left "Alt" key invokes the animfill routine which will fill each successive disc in each successive animation frame with successive cels of the surface animbrush. And the result is ... well, success of course, what else.

This time when the filling action stops press keyboard 4 to watch your Earth go into its spin cycle. Ah! A thing of beauty is a joy forever. But let's make it more beautiful. Let's put the icing on the cake as it were.

Take a look at Figure 2. Although that world is not ours the shading across it can be equally applied to our own. Let's make the shape which will be filled with the graduated fill pattern to form the shading animbrush. Reload the rotating circle brush which, remember, is the animated shape of your world and draw it down over the 34 frames of animation. You should know how to do this by now.

To create the shadow, first set up a colour range (Ctrl-r) consisting of a series of pale grey shades. Resist the temptation to use dark shades, they don't work as well. Next select Horizontal Line fill type from the Fill Type requester. The portion of the Fill Type requester reproduced at the bottom of Figure 2 shows the button for this fill pattern selected. After ensuring that the range of greys is the currently selected range (again refer to Figure 2 which shows Range 1 selected with the colour bar below the Dither slider indicating the actual colours in the range), animfill the rotating disc that was just drawn. It will automatically be filled with the desired pattern as shown in Figure 2.

I've taken the liberty of showing the effect of using either ordered or random dither when creating this shaded ball. Choose whichever suits your tastes.

Pick the ball up as a new animbrush and select Process/Value from the Effects menu. Next, turn Process on using either the menu item or pressing <Alt>-p. Either Alt key will do by the way. All that's left now is to match the current, shaded animbrush cels to the world cels already painted down on the animation frames - in other words match cel one of the shaded brush to frame one of the animation. Note that in Figure 2 each shaded ball brush matches the shape of the planet beside it.

Click the matched brush down over the planet then select undo, hit <shift>-7, call up the move requester and provided the Dist: and Angle: boxes are all set to zero, click Draw. This time when *DPaint* stops drawing you'll be faced with a realistic rendition of a shaded rotating planet.

Next month we'll create a moon to orbit our whirly world. See you then. ❑

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Daniel Rutter checks out the latest offerings in the ever expanding Fish library

BootX ++

I, like many Amiga users, was a bit depressd when I learned that the author of *BootX*, the powerful virus checking program, had stopped updating it. Well, the other members of Safe Hex International (SHI) have persuaded Peter Stuer to give them the source to the program, so they can continue to update *BootX* and its virus identification file. It might take a while for the next official version to come out, though, and this presented a small problem.

You see, recent versions of *BootX* have a feature built in to check if the program or the brain file are out of date - and to complain if they are. Since a new version might be a while coming out, this would leave just about every *BootX* user looking at alarming requesters every time they ran the program.

Stuer solved this problem by releasing patched versions of his last *BootX*, 5.23, and his last brainfile, 1.75. They're indicated by an "a" after the number, and they'll be on the next companion disk for this column - there's no companion disk this time.

On the subject of companion disks, those who ordered last month's might have noticed that *SysInfo*, the handy, well, system information program, was a later version than the one I mentioned in the article. The new version, 3.22, fixes some bugs and adds an external data file for unusual expansion boards, along with some other upgrades. It's shareware and costs $25 - Australian dollars for a change!

COMPLEXITY RANKING

+ Drover's dog could use it
++ Basic system knowledge required
+++ Experienced users - CLI use probably involved
++++ Wizards only

Fish Festival

Looks like it's about time to keep you abreast of the latest developments in the Fred Fish freely distributable software library, which seems to have got over its subscription hiccup of late - a few people felt guilty enough to send Fred money instead of sponging from others. Thanks to these responsible souls the Fish library has continued to expand, now reaching 880 disks.

Highlights of the latest 30 include:

Fish 851 AmigaWorld (++), a shareware database program that contains information about every country on Earth. The database is pretty basic, but gives population, size and currency details and allows you to list the countries in several ways. The freeware version lacks a few search and display features, (it costs $US20 to register) but is still perfectly usable.

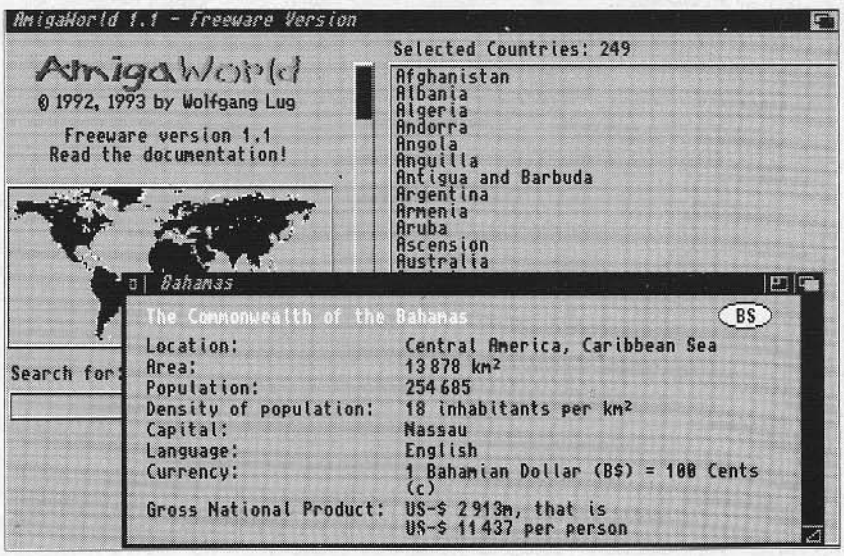
SingleFile (+++) is a small utility to find duplicate files or directories on a given volume.

I found quite a few oddments lurking on my hard drive, and anyone who's pushed stuff around on a large hard drive for a while will probably find the same. You can set flags to make the program ignore directories or files, it can search with and without case sensitivity, and you can get it to ignore icons. It's shareware and costs only $US10 to register, but you can only run it from the CLI.

Fish 853 MapTrix (++) is a groovy little algorithmic picture generator that can build pictures of clouds, weird textures, interference patterns, fractal images and lots more, and includes some special effect tools too. It's shareware and costs $US25 to register, and registering gives you a version that'll do full screen pictures and does animation frames too. But the demo version's worth a look by itself, though - it's a great toy!

Fish 857 MakePatch (++++) is a really nifty utility that lets you make a patch file to use to convert an old version of a program, picture, text file or anything else into a new one. The most

AmigaWorld Database



obvious application is for updating programs without sending out vast program files, but you can use *MakePatch* for all sorts of things - I've seen it stuff up occasionally when doing unusual things like patching archives, but it never actually crashes. Unusually in recently released software, *MakePatch* is public domain - anybody can do anything they like with it. But it does require WB2.

On the same disk there's **UDraw (++)**, a drafting program that uses bitmap graphics, like paint programs, instead of the usual structured graphics. This makes it tolerably quick even on unaccelerated machines, although it lacks the power of structured packages. It's great for quickly roughing out schematics, circuit boards for example, or you could use it for floor plans, game maps or just about anything else, since the idea of the program is that you grab picture elements from clipboards, which you can draw yourself. It's shareware and costs $US20 to register.

Fish 858 EPU (+++) 1.4 is a real time compression device for floppy or hard disks to effectively double your hard disk space. It's reliable and easy to install, and it doesn't stuff up DOS's detection of free space, so you always know how much room you've got left. The down side is that it's dead slow on 68000 machines, and none too quick on anything less than fast 68030. If you fit the bill, though - or you're willing to wait - this shareware ($US20 again) program's definitely better value than a new hard drive!

SuperDark 1.5 (+++), the latest version of the Amiga's answer to *After Dark* on other platforms. It's still a bit lumpy but is now more than tolerably stable with many bugs extracted. *SuperDark* includes lots of funky stuff - fireworks, fractals, funny Workbench effects, weird plasmas, the inevitable flying toasters and lots more. It's easy to use and, you guessed it, requires WB2.

Fish 860 LazyBench (+++) is a utility for lazy people with a hard disk crammed full of programs buried in nested directories. You can set up menus for lots and lots of programs, saving yourself an awful lot of excavation and giving you back the ease of use you bought the hard drive for in the first place. *LazyBench* basically works like a bonsai *ToolManager* (see below) and will run on WB1.3 as well as 2.

Fish 861 KingFisher Fish disk database (+++), which I use all the time. *KingFisher* lets even floppy users keep a database of every Fish disk - spreading the database over multiple disks if necessary - and also makes it easy to add new disks and navigate around the data. It's fast, friendly and well documented and, basically, wipes the floor with every other attempt. The current version is 1.30, and every home should have it.

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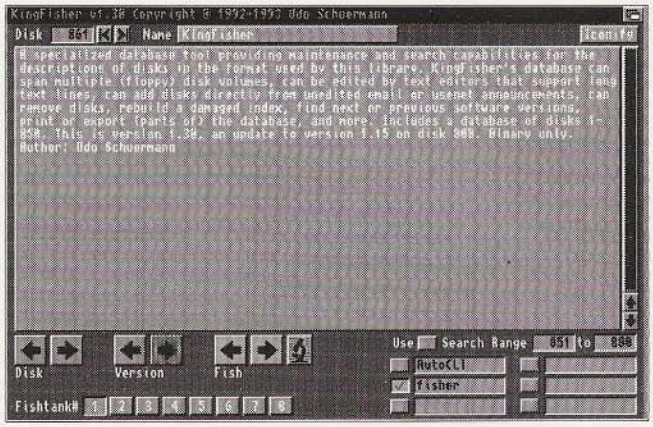

KingFisher

Fish 865 AntiCicloVir (+++) is a shareware link virus detector and exterminator which also detects some other viruses. Personally I reckon *Virus Checker*'s better, but ACV's worth a look.

Disk 867 DeluxePacMan 1.4 (+), a brilliant shareware ($US10) pacman type game with all sorts of bonuses and options, great sound, brilliant graphics and mounds of gameplay - if, of course, you like pacman games. There's three difficulty levels, plenty of different mazes and even a "boss button" that brings up a fake virus checker if somebody important wanders past! Definitely worth having.

Fish 868 SMaus (+++) is a highly configurable "SUN-mouse" utility for WB2. SUN mouse, named after the way the SUN workstation interface works, activates windows when you move the mouse into them, without having to click. This shareware version includes the ability to specify windows NOT to deactivate, to avoid annoying loss of text gadgets and suchlike.

Fish 870 From Commodore - Installer(++/++++) and Amiga Guide(++).

The first gives a uniform, powerful interface for installing stuff, usually onto a hard disk. (If you're smart you can write your own install scripts simply by looking at other peoples'.)

AmigaGuide lets you navigate around "hypertext" documents, by clicking on words to see explanations, for example. Many new programs coming out assume you have one or both of these utilities on your system, so here's your chance to get them. Both work fine on WB1.3 as well as 2.

Fish 871 On this disk you'll find v2.43 of the powerful shareware hard disk backup program **ABackup**, which is a definite challenger to the commercial alternatives in many fields. Worth a look if you're after cheap backup software.

On the same disk there's **StatRAM (+++)**, a very fast recoverable ram drive that takes advantage of Fast File System (FFS) under WB2 or FFS International under WB2.1 or 3. It's based on the tried and true ASDG recoverable RAM

disk, but it's much quicker - by a factor of four or more. Recoverable RAM disks survive rebooting, so stuff put in there can be used to boot the machine, for example, if you don't have a hard disk. Mind you, you need a decent amount of free RAM.

UnivConq (++) is a good strategy game where two human players battle for control of the universe. The game has several variables that allow the players to vary the density of planets, the initial number of ships, and the length of play. Status information is continually updated to allow the player to concentrate on strategy, not statistics.

Fish 872 Convert (+++) is a powerful units conversion utility that lets you convert anything into anything else, in essence. If you want to add weird specialised units, it's not nearly as hard as with other attempts at this sort of program.

ToolManager (+++) is a must for power users who want everything at their fingertips. The second part is on **Fish 873,** and between them you get the ability to add menu items to the 2.x "Tools" menu (although it works with 1.x), add Workbench icons or dock windows. Docks are windows with little buttons you click to do things, and they let you attach quite complex functions to very simple actions, and save an awful lot of icon shuffling. The current version of *ToolManager* automatically adjusts its docks to fit different sized buttons.

Besides *ToolManager*, **Fish 873** also has **Cross v5.1 (++)**, a program that creates crossword puzzles and has the ability to build them in any language - although only English and German are currently supported.

MRIconSort v1.01 (++) is a nifty little tool which will alphabetically sort and align your icons and optionally create icons for files and drawers which don't have them. If you have drawers with tons of icons which are a hopeless jumble, this program is for you!

Fish 874 TWA v1.2 (++) is a commodity (that's right, WB2!) that remembers the last active window on any screen. If screens are shuffled, the window is automatically re-activated when that screen is brought to front. Thus can you avoid typing merrily away into your word processor and having all your input sent to a deeply confused terminal program, because you forgot to click after swapping screens.

Fish 875 AZap 2.04 (++++) is a binary editor able to edit files, memory or devices like hard disks. It can open several windows at the same time, supports locale.library, and handles all OS3.0 file systems. Binary editors are NOT for the amateur, but if you're an expert you can use a program like

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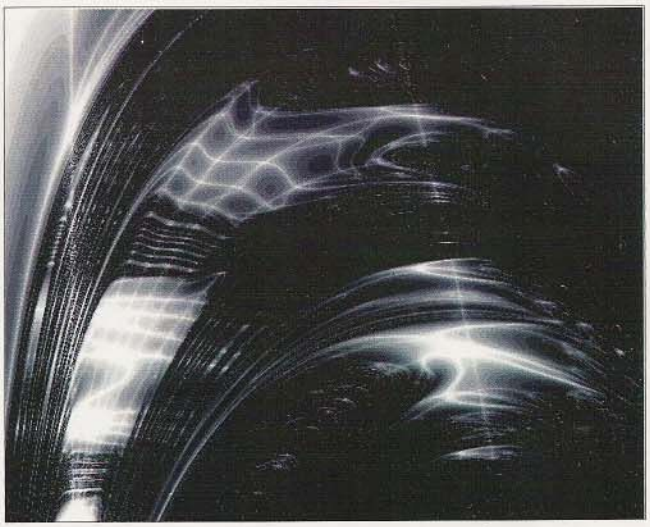

Lyapunovia

AZap for all sorts of low level muckings about.

Fish 875 SeekSpeed (+++) measures the seek performance of any valid device so you can tell if your hard disk does what the manufacturers said, and how different devices compare. It works by using the system's very accurate E clock and measures the time taken for seeking and reading varying numbers of sectors under both sequential and random access. Every test is performed 100 times if possible, and the average reported. And, you guessed it, it needs WB2.

Fish 876 BattleStar (+) is a fun text-based adventure game reminiscent of *Dungeon* (aka *Zork*) and *Adventure*, but with a futuristic setting. It's a pretty bare port from another operating system, but it's challenging and playable.

Fish 877 Lyapunovia v1.5 (++), an amazingly colourful shareware program that produces fractal pictures from a simple mathematical formula called "Lyapunov Space", works a bit like the well known mandelbrot set but looks completely different. It works on just about any Amiga, and the evaluation version is no longer crippled in any way - you can do everything!

Fish 878 bBaseIII v1.3 (+) is an easy to use, versatile, yet full featured database program that will run on any Amiga. Search or sort on any field, print mailing labels, (un)delete records, mail merge, get reports in many formats, scramble files, flag records, and more. Fields are configurable, so *bBase* can be used to keep track of just about anything.

Next Month

As usual, there will be a companion disk next month - or more probably two - and thanks to the wonderful mathematics of publishing I will have finished compiling them by the time you read this. See you next month! ❑

AMIGA 4000

No Problem

Specifications

Microprocessor
A4000/40 - Motorola 68040 at 25Mhz
A4000/30 - Motorola 68EC030 at 25Mhz
Interfaces
One serial & one parallel port
External floppy drive port
Stereo audio output for hi-fi or monitor
RGB monitor / video port
Mouse & joystick game ports
Internal AT IDE Hard Disk interface
Storage
120Mb IDE Hard Drive
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Audio
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Memory
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A4000/30 - 1Mb 32bit Chip/Display ram 1 Mb Fast ram expandable 16Mb
Workbench v3 featuring
Multitasking v3 Operating System, Compugraphic outline fonts, PostScript Output Support, MSDos 720K/1.44Mb Disk reader, up to 256 colour Workbench Screens
Graphics & Video
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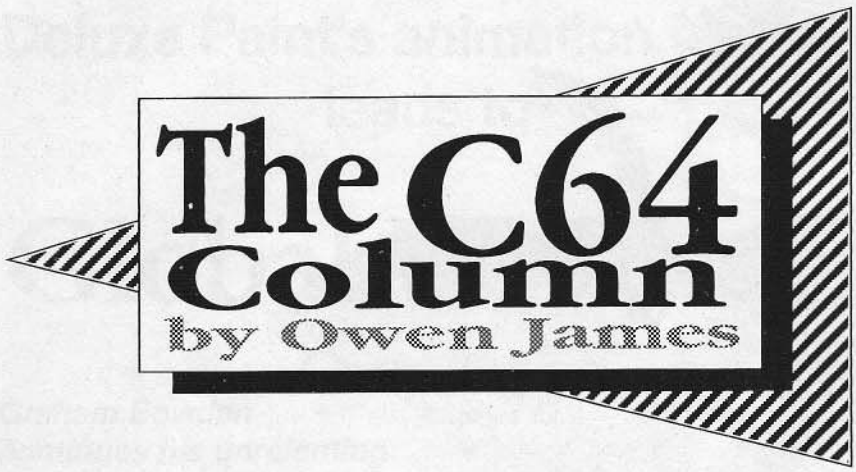

Dreamworld Adventure

Local programmer Heath Kirby Miller has announced the release of his budget-priced text adventure game *Dreamworld* for the Commodore 64. *Dreamworld* is set within the depths of your imagination, and escaping back to reality is not quite as simple as just waking up. Available directly from the author for $6 ($A8 if outside Australia). Write to Heath Kirby Miller, RMB 221 Sunraysia Hwy, Stuart Mill Vic 3478.

New PD Library

Southern PD is now offering public domain software for the Commodore 64. They have approximately 200 disks on offer for $2.00 each and a free catalogue with quarterly updates. For more information, or to obtain a free catalogue, contact Southern PD, PO Box 329, Plympton SA 5038 or telephone (08) 371 3270.

Contacts

'C64/128 Friendz & Contax', a world-wide mail-based users group and meeting place, are now the Australian agents for the Fun Graphics Machine. Anyone wishing to order or obtain further details about FGM should contact Friendz & Contax, 11 Dunsford St, Whyalla Stuart SA 5608. Owners of FGM with versions earlier than V6.5 can also have it updated by sending a blank disk, their FGM registration number and return postage.

Friendz & Contax also have a large C64/128 public domain library available to the general public. Prices are $5 per double-sided disk or $30 for ten. Send $2 for a complete catalogue.

Max Anderson from the Base Hospital at Griffith would like to hear from anyone with a copy of '64 Compactor'/'64 Uncompactor'. The hospital uses a C64 to drive an alert mechanism, but unfortunately the custom-written software has been compressed with 64 Compactor, making it impossible for the hospital to make several needed alterations to the system. If anyone has a copy of 64 Uncompactor, which was apparently obtained as a type-in listing from a magazine many years ago, please contact Max at Griffith Base Hospital, PO Box 1013, Griffith NSW 2680.

Mail

GEOS Questions

Anthony Zavaglia of Enfield NSW writes: "Dear Owen, Great Column! I have a few questions to ask.

"i) I'm wondering if some of those PD disks you were selling for GEOS are still available.

"ii) Do all of the GEOS applications that are available for GEOS 64 work with GEOS 128?

"iii) I would like to know if the FD2000/4000 series from CMD work with the C128, the cost, and does Gateway come with the drives?

"iv) Is Basic8 for the 128 worth the upgrade from Basic 7, and does it support the 80 column hires graphics screen.

"v) I see RamLink and RamDrive advertised, and would like to know which of the two is best and if any have a battery backed clock, and most importantly, are they compatible with the 128?

"vi) I would like to purchase a modem, but also be able to use it on another computer such as the Amiga.

"vii) Can you please send me a pointer utility program for the C128 mode that is accessible from BASIC, like the GEOS pointer, where I can define the co-ordinates.

"viii) Can you please recommend some books on machine language programming for the 128's built in machine language editor.

"ix) With the geoPrint cable, are you able to use any parallel printer, and does it work if I wanted to print from EasyScript or FontMaster?"

OJ: i) The GEOS PD disks (geoPD Volumes One and Two) are available from Code One Computer Services for $6.00 each. Send a cheque, money order or credit card details to Code One, PO Box 192, Katoomba NSW 2780, or phone/fax your order to (047) 57 3982.

ii) There's no guarantee, but a fair number of GEOS 64 utilities will operate under GEOS 128. As most, if not all, commercial GEOS 128 titles have now been dropped from production it may be worthwhile investing in GEOS 64 as well. It's certainly not as good as GEOS 128, but the applications are still available for it.

iii) The FD2000/4000 series drives from CMD will function quite happily with the C128, and can emulate the 1541, 1571 and 1581 drives for an extremely high level of compatibility. As far as I am aware, Gateway is not included with the drives, however it comes with its own utility software. Expect to pay around $500 for the FD2000 (1.6 megabytes on a single disk) or $750 for the FD4000 (up to 3.2 megabytes). Locally, the drives are available from Logico (02) 558 1884, PO Box 572 Marrickville NSW 2204.

CMD products are also available from Novo Computer Hardware, but several readers have complained that

they have not been able to reach them and/or have not received orders. Their line has been disconnected, and at the time of writing I am unaware of any further details.

iv) Basic8 is a worthwhile investment for C128 users, however you may need to look at purchasing it second-hand. Check your local classifieds. I'm not a 128 user, so I couldn't tell you for certain that it supports the high resolution 80 column screen.

v) RAMLink and RAMDrive serve two different purposes, and the best choice depends on your own requirements. RAMDrive is a battery-backed storage device. You use it in the same way you'd use a disk drive. Data can be stored and recalled from it, the advantage being extremely fast access and auto-booting facilities.

RAMLink in its native form, on the other hand, is nothing more than a clever interface for existing RAM devices. It has its own power supply, so even after you power-down your 64/128, the contents of any REU you have connected to RAMLink will remain intact. There's also an optional battery-backup.

RAMLink can also be expanded with an optional RAM card, so it too may function as a RAM disk of up to 16 megabytes. Contact Logico for up-to-date Australian pricing on RAMLink or RAMDrive.

vi) Probably the best option would be to purchase a standard modem, as used with an IBM-clone or Amiga, and obtain CMD's SwiftLink cartridge. SwiftLink provides an industry standard RS-232 port for the C64/128, allowing you to use a standard modem. It is, to my knowledge, the best way to run a 9600 baud modem from the C64. It also becomes a very useful tool for transferring data directly between a C64/128 and an Amiga or IBM-clone.

vii) I'm afraid I don't have a 128-specific pointer program. You might like to try contacting one of the many C64/128 public domain libraries, such as Brunswick Publications.

viii) Best idea would be to try your local users group, or perhaps 'C64/128 Friendz & Contax'. There's only a very limited amount been written for the 128,

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and anything that is around will most likely need to be obtained secondhand.

ix) The geoPrint cable will happily connect to any parallel printer, but the real power comes from its driver software. The GC Printer Drivers that are supplied with the cable provide a large enough range to work with almost any printer, although not always particularly well. As the geoPrint cable is not an intelligent interface, it must rely on software to make it useable. If the software you wish to use has provisions for a centronics cable, as GEOS does, then it will work quite happily, but sadly most software does not. A better solution may be the Xetec Junior printer interface, which doesn't require any special software drivers. For more information call Code One on (047) 57 3982.

MPS-802 Problems

Dr. R Fabricius of Hawker ACT writes: "Dear Owen, As a science writer, I do all of my word processing on the Commodore 64 and the MPS-802 dot matrix printer. The printer, for some reason, does not function very well, especially since someone re-inked my printer ribbons. I have not an idea whether the print head (where the fault may sit) can be exchanged, whether I have to exchange the printer altogether, and which printer models will link up with my Commodore.

"Another question which came up towards the end of the financial year: Which version of the Quick software for the 1993 Tax Return could I use with my Commodore."

OJ: Examining the print quality of your letter, it would appear that the problem is with the ribbon and not the print head. Re-inking of ribbons, although a cost effective measure, is not something I'd personally recommend. Very often too little or too much ink may be applied to the ribbon, or it is not given an even coat. This is especially the case with an inexperienced operator, and can lead to ink 'gunking up' your print head. The ribbon material itself will wear over time and also cause poor quality prints.

As a first step, I'd recommend you try a new ribbon and look at the difference that makes. If the quality is still unacceptable, then perhaps it might be time to consider a new printer. Print heads can be expensive to replace compared to the cost of a new printer, and some of the latest model printers can produce a much better quality anyhow.

Unfortunately, the electronic version of this year's Tax Pack are for IBM-compatibles only, and I doubt that we'll see a C64 version released in the future.

That just about wraps up this edition of The C64 Column. As usual, I'd love to hear from you. Send any questions, suggestions, bouquets or brickbats to me at The C64 Column, PO Box 288, Gladesville NSW 2111. I'll be back next month with a look at graphics software for the C64, plus all the regular news and views. ❑

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* As of 26/08/93

AMOS Column

by Wayne Johnson

Finally! The AMOS Pro Compiler and v2.0 update of AMOS Pro have arrived after weeks of delays and setbacks. I won't waffle on - here's the what you've been waiting for.

Firstly, I'll let out the new AMOSPro v2.0 improvements. Before I do, I'd better tell you that AGA support and Workbench/Intuition support have not been built in for this update as was promised. However, bug fixes are what is really important at the moment - and the compiler! By the way, this update was originally supposed to be called V1.2.

What's new

AMOSPro is now structured in a more modular fashion. This makes it easier to update AMOSPro when the AGA support arrives, and it has also ensured the Compiler integrates wonderfully.

The AMOSPro file is now a mere 20K - a loader which uses the AMOS.library, the main instruction set.

With the extension system, you can now create reserved variables within extensions, have single or double floating point parameters and more. The extension system is also compatible with all the extensions written for AMOSPro since V1.00.

Extension writers should wait for the AGA version of AMOSPro before releasing their code into the public domain. AGA will induce many modifications within the screen structures of AMOS. Information about these new screen structures will become available when we release the AGA version.

The requester routines are now part of the AMOS.library. This reduces the size of the requester extension to a mere 250 Bytes. The default Mouse.Abk has been included within the library. AMOSPro_Default.Font is no longer necessary.

The resource banks have been cleaned up. Some icons have been redrawn to offer a better graphical interface. The Default resource includes new graphic elements to create new kinds of buttons and editing zones.

The default screen setup and the editor screen setup have also been rewritten to cope with the extended AGA palettes, available when AMOSPro works in AGA.

New function: =ZDialog (Channel,X,Y)

This new instruction can be very useful: it returns the number of the interface zone under X and Y coordinates - without waiting.

Channel: Number of an opened dialogue channel X : X screen coordinate to test Y : Y screen coordinate to test

The resource bank maker has been enhanced and now offers the possibility to store interface programs within a resource bank.

To reach the new functions of the resource bank maker, just click on the new button from the main menu: 'Edit dialog programs'. You will enter a new panel with the list of programs currently present within the resource bank.

The purpose of these new functions is to allow you to insert the Interface programs within the middle of a resource bank. The interface strings will no longer be required within your AMOS Program - line like: "A$=A$+" or "Data".

This is similar in practice to using the AMAL Editor to enter AMAL programs rather than creating strings ($)...

Problems fixed since 1.0

Blocks in the editor. The editor used to add garbage at the end of a block when cutting the block which included a non-tokenised line.

Program to menu problems: you could totally mess-up the editor's menu by adding/removing "Programs to Menu" on menus, like "Help", "Configuration" etc.

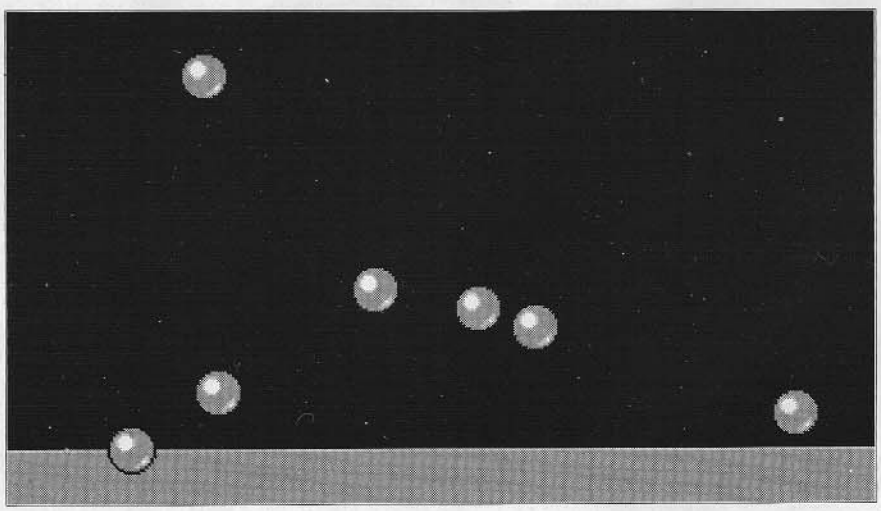
From V1.12 of AMOSPro, INPUT could not be seen from the monitor. Doing a screen close in direct mode on a screen which included an active dialogue channel, resulted in AMOSPro stuck within an infinite loop.

For example:

Vdialog$(0,1)=Array(a$(1))

was accepted by the test. This line was false, as the Array function returns an integer (the base of the array) and Vdialog waits for a string. From the very start of AMOS a bug in integer multiplication caused false results for certain numbers - this is fixed.

Balls test program



Corrections to the AMOSPro User Guide

Page 05.07.06 Read Text$ should read Read Text

Page 07.06.23 "Move On" should read "Movon"

Page 11.01.04 XGRAPHIC / YGRAPHIC "Xtext" should read "Xgraphic" "Ytext" should read "Ygraphic"

Page 11.04.04 EXEC instruction does not accept an "Output" parameter.

Compiler PRO V1.0

The Rolls Royce slows, the crowd waits, the door opens, and thousands of eager AMOS programmers go crazy. Yes, it's finally here in Australia and it's been one of the most talked about products on the Amiga as of late.

You can tell from the screen shots that there has been a dramatic change since the old compiler. I received the box a long time before the compiler actually arrived here. The packaging is quite nice and is in the same size and style as the AMOSPro box.

Inside are three disks; the Compiler Disk, Extras Disk, AMOSPro V2.0 Updater Disk and a thin manual. Firstly, the Pro updater disk is simple to install and in doing so, it preserves most of your configuration settings. The only way you will ever have trouble with the updater is if you have not installed all of the AMOSPro compiler disks. Other than that, floppy disk users and hard drive users (with a complete install) will have no problems. If you were like me and didn't want to install all the garbage on to your hard drive that comes on the additional AMOSPro disks, simply create the following directories inside the AMOS_PRO directory:

ACCESSORIES
EXAMPLES
PRODUCTIVITY1
PRODUCTIVITY2
TUTORIAL

After you create these empty directories, any installers in the future will think that you have a fully installed version of AMOSPro.

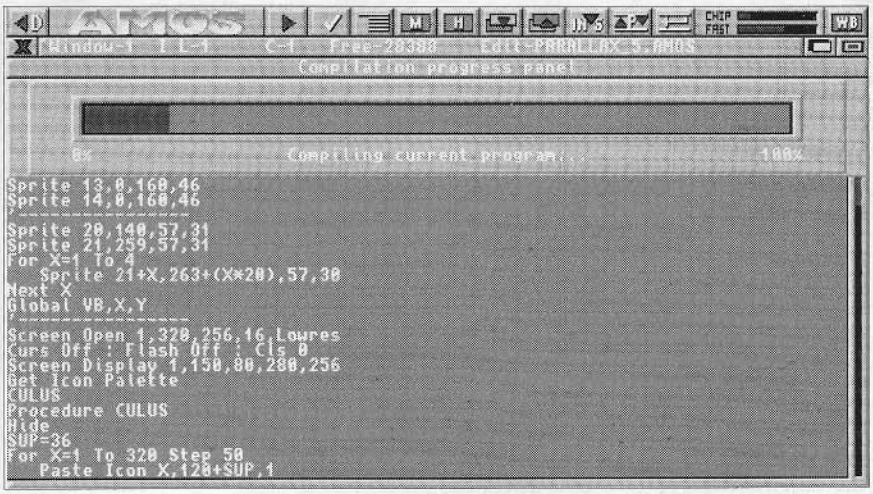
After AMOSPro has been updated, the Compiler is ready to install in the same way. Just click on the icon show the installer where your AMOSPro file is. You can go on and install the Extras disk which contains some very good examples for testing the compiler. One good one that springs to mind is the BouncBobs.AMOS program. This bit of code keeps sending more and more BOBs onto the screen until Blitter can no longer keep everything smooth. Uncompiled, 7 BOBs can bounce around the screen until everything starts jerking. Compiled, you can have 20 before the jerkiness comes in. That's not bad ...

You can tell by the screen shots what it all looks like, but how fast is it? To be honest, I didn't think it would be much different to the speeds that the Compiler 1.36 achieves. However, I ran the following bit of code in four situations:

```
Timer=0
I=0
Repeat
Inc I
M=999999999+888888888
Until I>50000
Print Timer
```

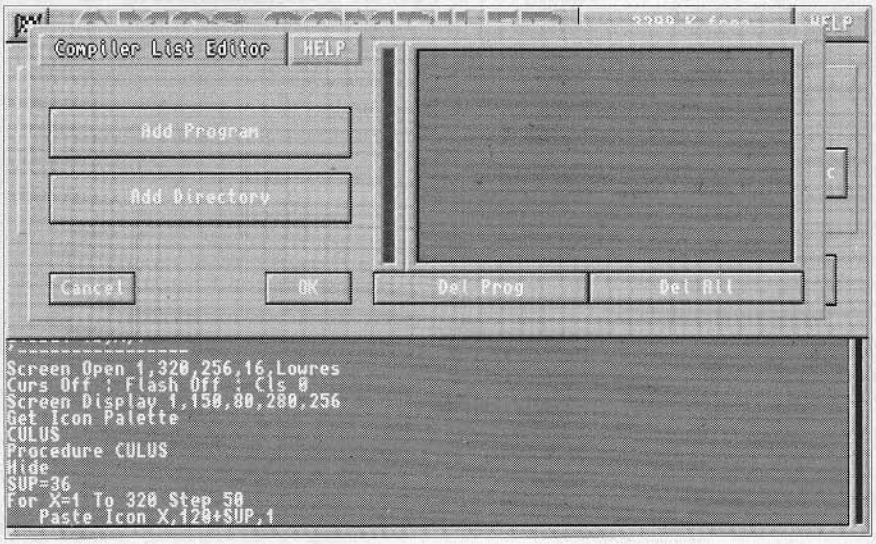
This program performs the addition 999999999+888888888 a total of 50000 in a loop and prints how long it took to perform in Timer units. These are the results:

AMOS1.36 Interpreted: 696 units.
AMOS1.36 Compiled: 86 units.
AMOSPro Interpreted: 705 units.
AMOSPro Compiled: 36 units.



ProAMOS Quick Compiler

Compile a directory of programs

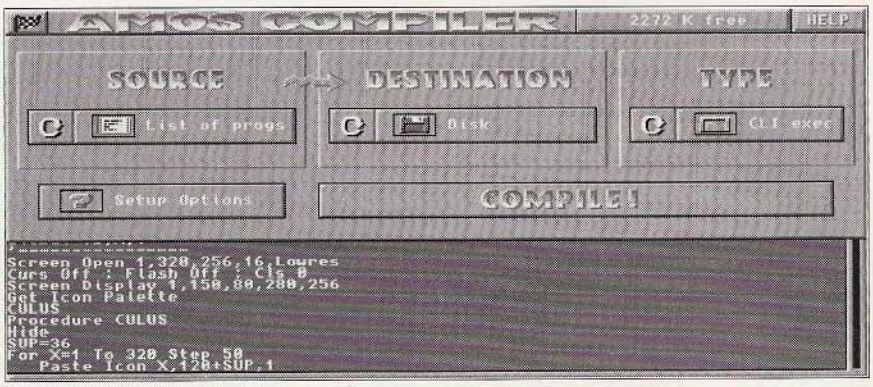


Standard AMOS improves things eight times faster. That's good, however AMOSPro (even though it's a few units slower interpreted) compiles and runs this program no less than 19 times faster!

The Pro Compiler also gives you the choice of including the AMOS.library into your compiled code. This produces a stand alone executable piece of code. On the other hand, if you want to compile the code without the library, your program will require the AMOS.library to be in the Libs directory of the disk your program will be on.

There's an advantage and a disadvantage to this option. If you compile with the AMOS.Library, your final file size will be larger, BUT the program will be able to run without extra files. If you compile without the library, the compiled file size is very tiny but you will need the library to be in a disk's Libs directory as I mentioned before.

The advantage of this, is if you had quite a large number of compiled programs on a disk, you only need the AMOS.library once in the Libs directory.



Compiler Shell

Therefore you can have around 100+ compiled programs on a standard 880k disk rather than around 16 Normally compiled programs.

When I compiled the above program, I got the following results:

Original .AMOS file size 140 bytes

Pro Compiled (no library) 7884 bytes

Pro compiled: 54772 bytes

Oh, and how do you compile? Simply select Compile from the USER menu. This will drop the compiled version into another window ready to run. If you want to compile in another format (WB or CLI) or change some options, select "Compiler Shell" instead.

What else can I tell you? Go try it out. A demo disk is available on Amiga File Server (02) 876 8965, Predators BBS (02) 604 6816, Amiga Connection (02) 970 6444, or Blade (02) 957 3380. ❑

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You Can CanDo Speech Utility

Greg Abernethy continues his regular guide to using CanDo, an object orientated language for writing your own Amiga applications.

This is the speech utility that was held over from last month. I wanted a suitable voice for some of the educational software I was designing.

DESIGNING THE SPEECH UTILITY

The specifications for the window are;

```
WINDOW NAME      "CanDo Speech Editor..."
WINDOW SPECIFICATIONS
X POSITION = 0 : Y POSITION = 0
WIDTH = 640 : HEIGHT = 256
NUMBER OF COLOURS = 4
DRAG-BAR GADGET
WINDOW CLOSE GADGET
WINDOW FRONT-BACK GADGET

WINDOW OPTIONS
THE WINDOW HAS VISIBLE BORDERS TRY TO
OPEN WINDOW ON WORKBENCH

CARD SPECIFICATIONS
CARD NAME   "Speech"
AFTERATTACHMENT SCRIPT
Dos "c:copy c:say ram:"
Let text = "Male*Female*Natural*Robotic"
Let y = 23
Let x = 0
Loop
   Let x = x + 1
   DrawBorder 110,y,96,11,DOUBLEBEVEL ,2,1
   PrintText
CenterString(GetWord(text,x,"*"),12),110,y + 2
   Let y = y + 20
Until x = 4
SetObjectState "Male",ON
SetObjectState "Natural",ON
Let pitch = 160
Let speed = 160
Let Male = 1
Let Female = 0
Let Natural = 1
Let Robotic = 0
SetPropPosition "Pitch",pitch
SetPropPosition "Speed",speed
SetText "PValue","Pitch ="|||pitch
SetText "SValue","Speed ="|||speed
SetText "Message","Enter or LOAD TEXT, SELECT
speech options and CLICK on SPEAK TEXT"
```

Explanation:

Once again, please make sure the "SAY" command is in your c: directory. For WB1.3 and WB2.0 users, "SAY" is in the Utilities drawer of your Workbench. I have an Amiga 1200 which has WB3.0 and no speech facilities, so I had to copy the narrator.device, speak.handler and say command from WB2.0 to the WB3.0 environment to use it.

If you have an A1200 you will need to do the same. Copy the narrator.device to DEVS: and the speak.handler to L: on your WorkBench. The script prints some text labels and then sets the speech variables to a default setting. The proportional gadgets are set and a message is displayed.

Speech Option Buttons

There are four speech option buttons. They are;

MALE BUTTON SPECIFICATIONS

```
Button Name = "Male"
Horizontal = 61  Vertical  = 23
Width    = 26  Height    = 11
Border   = CHECK
Button Type = "Area"

Script
Let Male = 1
Let Female = 0
SetObjectState "Male",ON
SetObjectState "Female",OFF
```

Explanation:

This script toggles the MALE or FEMALE option on and off, and checks or clears the button.

FEMALE BUTTON SPECIFICATIONS

```
Button Name = "Female"
Horizontal = 61  Vertical  = 43
Width    = 26  Height    = 11
Border   = CHECK
Button Type = "Area"
Script
Let Female = 1
Let Male = 0
SetObjectState "Male",OFF
SetObjectState "Female",ON
```

NATURAL BUTTON SPECIFICATIONS

```
Button Name = "Natural"
Horizontal = 61  Vertical  = 63
Width    = 26  Height    = 11
Border   = CHECK
Button Type = "Area"
Script

Let Natural = 1
Let Robotic = 0
SetObjectState "Natural",ON
SetObjectState "Robotic",OFF
```

ROBOTIC BUTTON SPECIFICATIONS

```
Button Name = "Robotic"
Horizontal = 61  Vertical  = 83
Width    = 26  Height    = 11
Border   = CHECK
Button Type = "Area"
Script
Let Natural = 0
Let Robotic = 1
SetObjectState "Natural",OFF
SetObjectState "Robotic",ON
```

LOAD TEXT BUTTON SPECIFICATIONS

```
Button Name = "Load"
Horizontal = 60  Vertical  = 106
Border   = SHADOW
Button Type = "Text"
Button Text = " LOAD a TEXT FILE "
Script
Let File = AskForFileName(TheCurrentDirectory,"
Select TEXT FILEto LOAD...",191,57)
If FileOf(File) <> ""
   If FileType(File) = "Unknown"
      WorkWithDocument "Text"
      Clear DOCUMENT
      LoadDocument File,"Text"
      MoveCursorTo STARTOF DOCUMENT
      SetObjectState "TextDoc",ON
   EndIf
EndIf
```

Explanation:

A requester asks for the text file to load. If it is a valid text file it is loaded

into the document.

CLEAR DOCUMENT BUTTON SPECIFICATIONS

```
Button Name = "Clear"
Horizontal = 237  Vertical  = 106
Border    = SHADOW
Button Type = "Text"
Button Text = " Clear DOCUMENT "
Script
WorkWithDocument "Text"
Clear DOCUMENT
SetObjectState "TextDoc",ON
```

SPEAK TEXT BUTTON SPECIFICATIONS

```
Button Name = "Say"
Horizontal = 396  Vertical  = 106
Border    = SHADOW
Button Type = "Text"
Button Text = " SPEAK the CURRENT TEXT "

Script
If Male = 1
   Let sex = "-m"
Else
   Let sex = "-f"
EndIf
If Natural = 1
   Let voice = "-n"
Else
   Let voice = "-r"
EndIf

SaveDocument "Text","ram:test.txt"
Dos "ram:say -x"!!!sex!!!voice!!!"-p"!!pitch!!!"-
s"!!speed!!!"ram:test.txt"
SetObjectState "TextDoc",ON
```

Explanation:

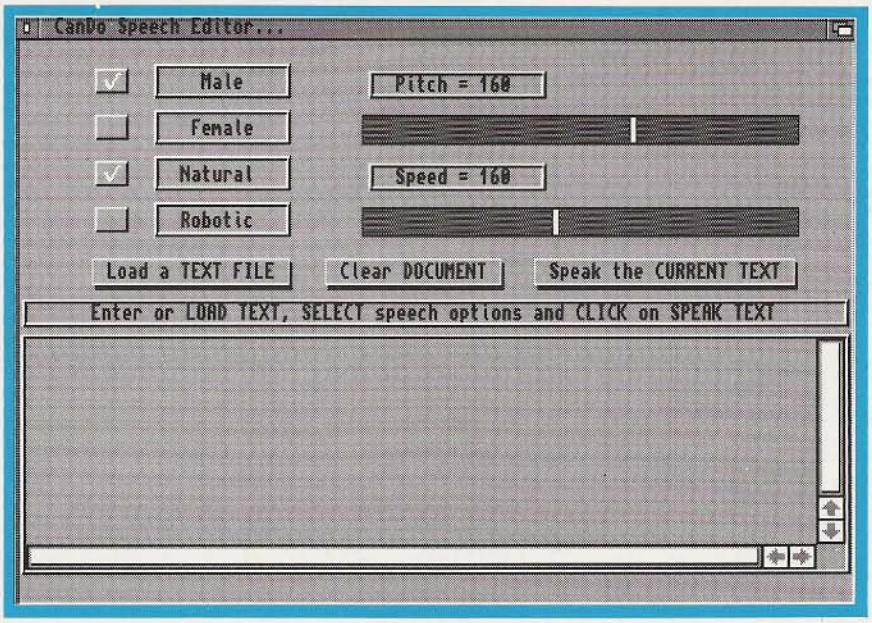
The current speech options are set into variables and then the document is saved to ram: so that the text file can be spoken use the "-x" option.

MESSAGE FIELD SPECIFICATIONS

```
Field Name = "Message"
Horizontal = 10  Vertical  = 125
Width    = 620
Border    = DOUBLEBEVEL
FieldType  = "Text"
Left Justification
NumberOfCharacters = 80
No Script
```

PITCH VALUE FIELD SPECIFICATIONS

```
Field Name = "PValue"
Horizontal = 273  Vertical  = 26
Width    = 128
Border    = DOUBLEBEVEL
FieldType  = "Text"
Left Justification
No Script
```



SPEED VALUE FIELD SPECIFICATIONS

```
Field Name = "SValue"
Horizontal = 273  Vertical  = 66
Width    = 128
Border    = DOUBLEBEVEL
FieldType  = "Text"
Left Justification
No Script
```

Proportional Gadgets

There are two proportional gadgets for changing the speed and pitch of the voice. The specifications are;

PITCH PROPORTIONAL

```
GADGETNAME   = "Pitch"
STYLE   = "AutoKnob"
ORIGIN  X = 264 : Y = 43
SIZE    Width = 332 : Height = 13
FREEDOM LEFT - RIGHTSYSTEM BORDER
NewPosition  Script
GetPropPosition "Pitch",x,y
Let pitch = x + 64
SetText "PValue","Pitch ="!!!pitch

SPEED PROPORTIONAL GADGET
NAME   = "Speed"
STYLE   = "AutoKnob"
ORIGIN  X = 264 : Y = 83
SIZE    Width = 332 : Height = 13
FREEDOM LEFT - RIGHTSYSTEM BORDER
NewPosition  Script
GetPropPosition "Speed",x,y
Let speed = x + 39
SetText "SValue","Speed ="!!!speed
```

The last object to create is the document for entering text. Instead of using a field for text entry I thought that a document would be better, as you can load a text passage and have the Amiga speak the passage for you as a sort of spelling and grammar checker.

SPEECH DOCUMENT SPECIFICATIONS

```
DOCUMENT OBJECT NAME   "TextDoc"
DOCUMENT NAME          "Text"
DOCUMENT TYPE          Memo Document
DOCUMENT ORIGIN        X = 9 : Y = 140
DOCUMENT SIZE          Width = 622 : Height = 100
BORDER                 Double Bevel
No Scripts
```

Experiment with different speed, pitch, sex and voice settings to find the most suitable voice for your use. You can then incorporate the speech settings in your applications that require speech.

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Term 3.3

Workbench 2.x users with a hard drive - this is the best FREEWARE terminal program on the market. Term has an excellent interface, powerful script language and phone-book support. ('030 Version Included) Installation Script Included.
Three disks. Modem & WB 2.x required. Hard Disk Recommended.

Hard Disk Utilities #1

Includes Hard Disk Backup program, ALock security, File Undeleter, Azap disk editor, Bformat - automatically marks bad sectors out of use, Boot Logo, FindIt - locates files fast and HDMem - a Virtual Memory system. 1 Disk.

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For A1200's

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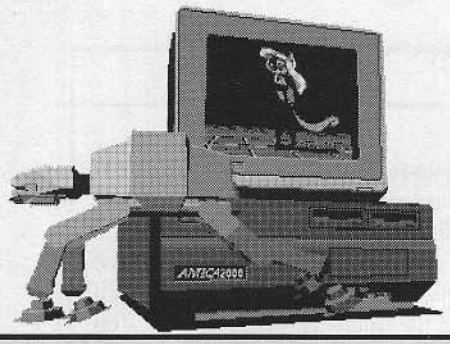

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Back to Basics

Fractions

by Stan Nirenberg

Designed to teach 7 to 14 year olds all there is to know about working with fractions, *Fractions* allows the student to practise the skills of factorising, simplifying, multiplying, dividing and adding fractions.

Inside the large box that the program comes in is one instruction manual and one floppy disk. I guess software cannot be sold these days without elaborate packaging.

The program itself is not copy protected which means that a backup can be made in case of accident. The manual does not discuss installing the program onto hard disk, and my attempt to do so was not very successful. Although it was easy enough to copy the appropriate files onto my hard drive, the Amiga would crash when the program was exited. However, when working from the floppy disk, the program worked well. In reality, though, there is no need to install *Fractions* onto a hard drive as the program itself resides on only one disk.

The instructions that come with the program are short but more than adequate. There is a brief introduction to starting the program, followed by a description of the user interface. The main screen is fully explained and use of buttons is discussed. Note that the program can be fully controlled by the mouse, although it is possible to enter answers using the numeric keypad. The latter is my preferred method as it makes for a quicker response.

The instructions go one step further and discuss the key concepts that are introduced by *Fractions*. An example of each type of exercise is given so that the student understands what is required and how the drill is to be performed. For further assistance, pressing the help key on the Amiga 500 causes an instruction page to pop up on screen to explain the exercise along with a worked example.

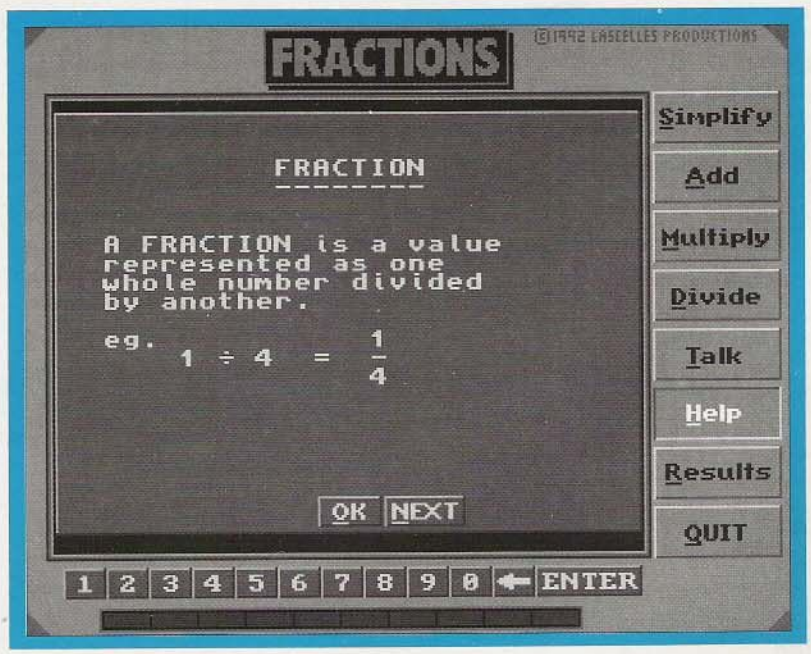
Using Fractions

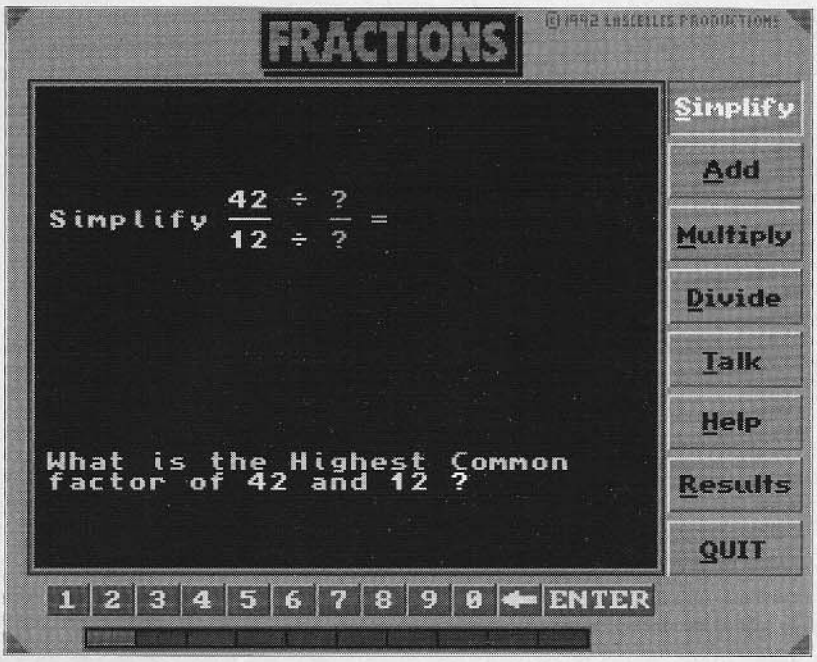
Starting *Fractions* is no more difficult than inserting the program disk in the floppy drive and turning on the power. After the workbench screen appears, double click on the *Fractions* disk icon and after the window opens, double click on the program icon. If you have a hard drive, simply start up the computer, insert the *Fractions* program disk in the floppy drive, double click on the *Fractions* disk icon and then on the the program icon.

Fractions is a really simple program to use. Each of the exercises takes the user step by step through the problem solving process. Although the manual states that an understanding of fractions is assumed, the instructions provided, the on-screen help and the sequential approach will let any level of user feel comfortable with the program. In addition, the Amiga's speech facility can be invoked to read out instructions as the exercise progresses.

Four types of fraction related skills are exercised by the program. Each sequence comprises 10 examples and progress is shown by a "petrol gauge" at the bottom of the screen. As each exercise progresses, the screen shows the problem that is being tackled and the various adjustments that are made to the numbers being manipulated. In a sense, the screen duplicates the approach that would be taken by the student were he or she solving the problem on paper.

Simplify shows how to find the highest common factor in order to express





FACT FILE
Publisher: Lascelles Productions
Distributor: Don Quixote Software
RRP: $39.95
Category: Arithmetic
Comments: Limited Useful on its own. Better value if it was bundled with other software.
Age Group: 7 to 14
Rating: **

the fraction in its simplest form. For example, 8/24 can be expressed as 1/3.

Add teaches the technique of adding two fractions together. The method is based on finding the lowest common multiple to enable the fractions to be added. For example, to add 11/3 to 3/6, we must first find the lowest common multiple of the denominators (in this case 6) and adjust the numerators accordingly. The equation becomes 22/6 + 3/6 which gives 25/6.

Multiply instructs the user in the method of multiplying two fractions. This is simply carried out by multiplying the numerators followed by the denominators. For instance, 4/9 times 8/6 becomes (4*9)/(9*6) which gives 36/54. The program then prompts the user to simplify the fraction.

Finally, **divide** introduces the concept of reciprocals to convert a problem of dividing two fractions into one of multiplication. As an example, 7/11 divided by 4/11 becomes 7/11 times 11/4 (the reciprocal of 4/11). Again, after the multiplication is performed, the user is prompted to simplify the fraction.

At any time, the user may stop the exercise by hitting the ESC key. At the end of the series of 10 questions, the student can try another set of the same exercise or move onto something else. The program will display the progress the student is making in any of the four exercises. A report can also be printed out.

Summary

Back to Basics - Fractions is a competent package that delivers what it promises. It is easy to use, the instruction manual is more than adequate and the graphics are good, if unexciting.

However, the program itself is somewhat bland in that there is little there to capture the user's imagination and therefore I cannot see children spending hours with it learning the finer points of working with fractions.

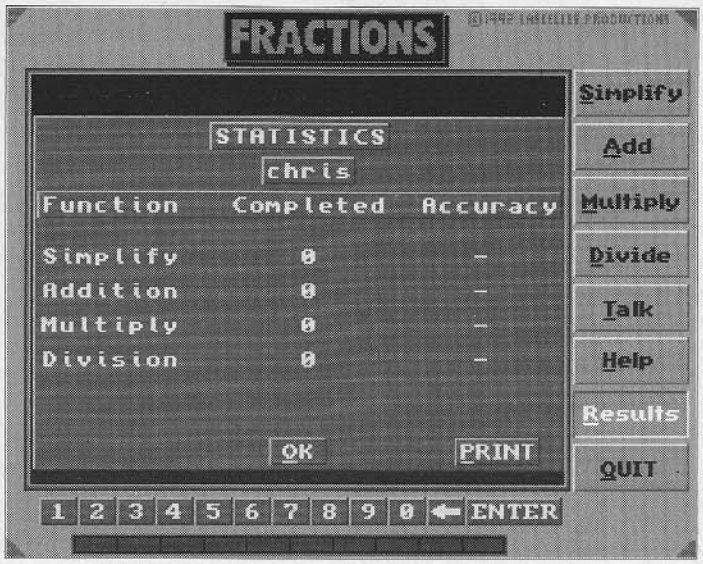
Back to Basics - Fractions is a very specialised program designed to teach only one subject area. As such it has limited application and would have been better off bundled with *Back to Basics* (reviewed in ACAR July).

Those parents that feel their children need further work in developing their fractions skills will find this a suitable program.

Correspondence

That's all we have for this month, folks - a short review of a short program!

As usual, please write in with your comments, questions, etc to me care of ACAR or directly to PO Box 136, Forest Hill, Victoria, 3131. ❑



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Andy's Attic

How to create a RAD drive

by Andrew Leniart

Welcome back to my humble Attic. This issue we continue with our explorations of WB2.0 and show how to create and make use of a recoverable RAD drive.

User-Startup

When you first turn your Amiga on, it immediately searches the S: directory of your boot disk for a script file by the name of "startup-sequence". Once found, the Amiga happily goes through it line by line and executes the commands within and prepares your working environment.

Now the general rule of thumb in modifying your work environment to make other things happen automatically at startup time was to go off and edit the startup-sequence. But with the release of WB2.0, AmigaDOS designers have made a distinct effort to try and get you to leave that file alone. Why? The reasons are actually quite sound.

AmigaDOS is in continual development. It's constantly being updated and modified. In the last couple of years, we have gone from WB1.2 to WB1.3. Made a leap to WB2.0 and now WB3.0 is available. All of these upgrades have seen major alterations to what does and does not need to be done at startup time for the Amiga to function correctly. All these changes are made automatically by installation software when you upgrade to a newer version of AmigaDos.

If you have an altered startup-sequence, then you lose all of your changes as soon as you upgrade because the old startup-sequence is renamed and replaced with a new one. You're then faced with the task of modifying it all over again to add any commands or programs you like to run at startup time.

By following Commodore's suggestion and making any modifications via the use of the User-Startup file, you need never worry about losing those modifications again. Keeps things neat, tidy and works just as well as if you had made the changes in the startup-sequence. Take heed of this advice and use the User-Startup file in your S: directory. It'll make life so much simpler when you are trying to figure out why something is going wrong or when upgrading your operating system.

RAD to the rescue

Recently my faithful old Commodore A590 hard drive decided it didn't want to play any more and reduced me back to a floppy drive system. It's not totally useless as the 2 meg of ram in it is still recognised by my Amiga, so while I decide whether or not it's worth fixing, I've eased the pain of long and boring reboots by creating a RAD drive.

For the uninitiated, a RAD drive is just like a RAM disk, with the exception that it can retain its contents after a warm reboot. The price you must pay for such a luxury is devoting a certain amount of memory to a RAD drive regardless of whether or not you are using it. Another bonus of a RAD drive is that it if you have enough RAM to do it, you can actually make RAD rebootable.

For my own purposes, I allocate a full disk's worth of RAM (random access memory) to RAD and copy my WorkBench disk over to it at startup. These days, when I first switch my Amiga on, the startup time is five or six times longer than it would normally take, but I only ever have to wait that long once a day. Once the RAD drive exists, rebooting only takes a matter of seconds. Here's how to do it.

Mounting RAD

If you have 2MB or more of RAM in your system and do not own a hard drive, then you can get some real good value by creating a rebootable RAD drive. You create RAD with the MOUNT command. Just add the following lines to your S:User-Startup script.

The following gives you an option of creating or not creating a rebootable rad drive each time you power on with your Amiga. By using a script such as this one, you can opt to not load RAD if you decide you need all of your ram at startup. It'll also show you some simple methods of utilizing a few of AmigaDos script commands such as SKIP, LAB, ECHO etc.

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```
assign >nil: rad: exists
if warn
skip Set_Up_Rad
else
Skip Nothing_To_Do
LAB Set_Up_Rad
endif
echo " "
ASK " Will you be needing a RAD DRIVE for this
session...[Y]es [N]o ?"
If warn
echo " "
echo " Fine... Proceeding with RAD drive setup
procedure! "
failat 30
assign >NIL: RAD: exists
if warn
   echo "Mounting a RAD: Disk....."
   mount RAD:
   if not exists rad:c
      echo " "
      echo "Copying BootDisk to RAD:"
      sys:system/diskcopy  <NIL: DF0: to RAD:
NoVerify Name "RAD_WB"
   endif
endif
echo " "echo "Transferring total system control to
RAD:...."
assign C: RAD:c
assign S: RAD:s
assign L: RAD:l
assign LIBS: RAD:libs
assign DEVS: RAD:devs
assign FONTS: RAD:fonts
assign SYS: RAD:
echo " "
echo " All Done! "
echo " "
echo " No need for a disk to be in drive from here on
unless the"
echo " Computer has been turned off!"
Wait 2
Lab Nothing_To_Do
echo " "
echo " Nothing to do! "
echo "Uroo fer now.."
Wait 2
```

The script may look confusing, but it's actually quite simple. The first line checks to see if RAD has already been mounted. If NO (warn) then the script file "skips" to the label "Set_Up_Rad". If it does already exist, then the script "skips" to label "Nothing_to_Do". Labels (or blocks) are defined with the LAB command.

The ASK command is what gives you the ability to decide on whether you do or don't want a RAD drive when you first power on. ASK works in a similar way to ECHO. Difference is that it will "ask" for user input and will accept either Y or N as a valid response. If Y is pressed, ASK returns a (warn) condition to the script file. This can be acted upon by using IF,ELSE,ENDIF blocks. If N is pressed, ASK returns an error of zero which can in turn be trapped and acted upon by using the "failat" command. "Failat 30" tells the script file to fail (cease executing) if an error of 30 or greater is returned to it during execution.

The ECHO statements merely serve to give you visual confirmation of what is happening during the execution of the script. You can put in as many of these as you like, as long as they are in inverted commas. ECHO " " on a line on its own simply tells the Amiga to echo nothing to a line and move onto the next line to save cluttering up the screen, effectively making everything a bit easier to read.

ENDIF must always be used at the end of an IF block. When an IF condition is not met, or if an ELSE is reached in the block, then the script will jump to the next EndIf command. This gives us a means to check for certain conditions and force the Amiga to perform differently depending on the result of those checks.

ASSIGN in our example transfers total control to the RAD disk once the script has completed its diskcopy of your WorkBench disk. Once these assigns have been made, then there is no longer any need for your WorkBench disk to be in a drive from there on. The RAD disk effectively becomes your WB disk unless you either power your Amiga OFF or use the REMRAD command in a shell before rebooting the machine.

The reason WAIT has been used in the script is to simply pause the script for a couple of seconds so that you can read the echo statements prior to it. If WAIT is omitted, then the script finishes and the echo statements disappear from your screen before you have a chance to read them.

Check it out

That's all there is to it. Save your User-Startup file and reboot the Amiga. Answer [Y]es to the prompt asking if you would like a RAD drive set up and sit back and wait till the whole thing finishes. It'll take a while, but once it's done, remove the WB disk and reboot again. You'll be pleasantly surprised at just how quickly WB re-appears for you again.

Things to consider

The above script file was written for a standard WB2 RAD mountlist entry. The size of the resulting RAD disk is 880K. Same size as what a standard Amiga formatted floppy disk will hold. But if you've forked out some serious cash for memory expansion and have more ram than you can poke a stick at, then you can create a larger RAD disk by modifying the "HighCyl = 79" to a larger value. Doing so however will cause our example script to fail as "DiskCopy" will only work on 880K disks. This can be remedied by modifying the script to use the "Copy" command to copy everything across instead. COPY takes a bit longer to do its stuff, but it's just as effective.

By the same token, if you only have 1Meg of ram and would like just a small RAD disk to hold the C: commands for example, you could do likewise by lowering the "HighCyl = 79" mountlist entry to a much lower value like 10 or 12. You will also need to add the following line to the RAD mountlist entry in DEVS.

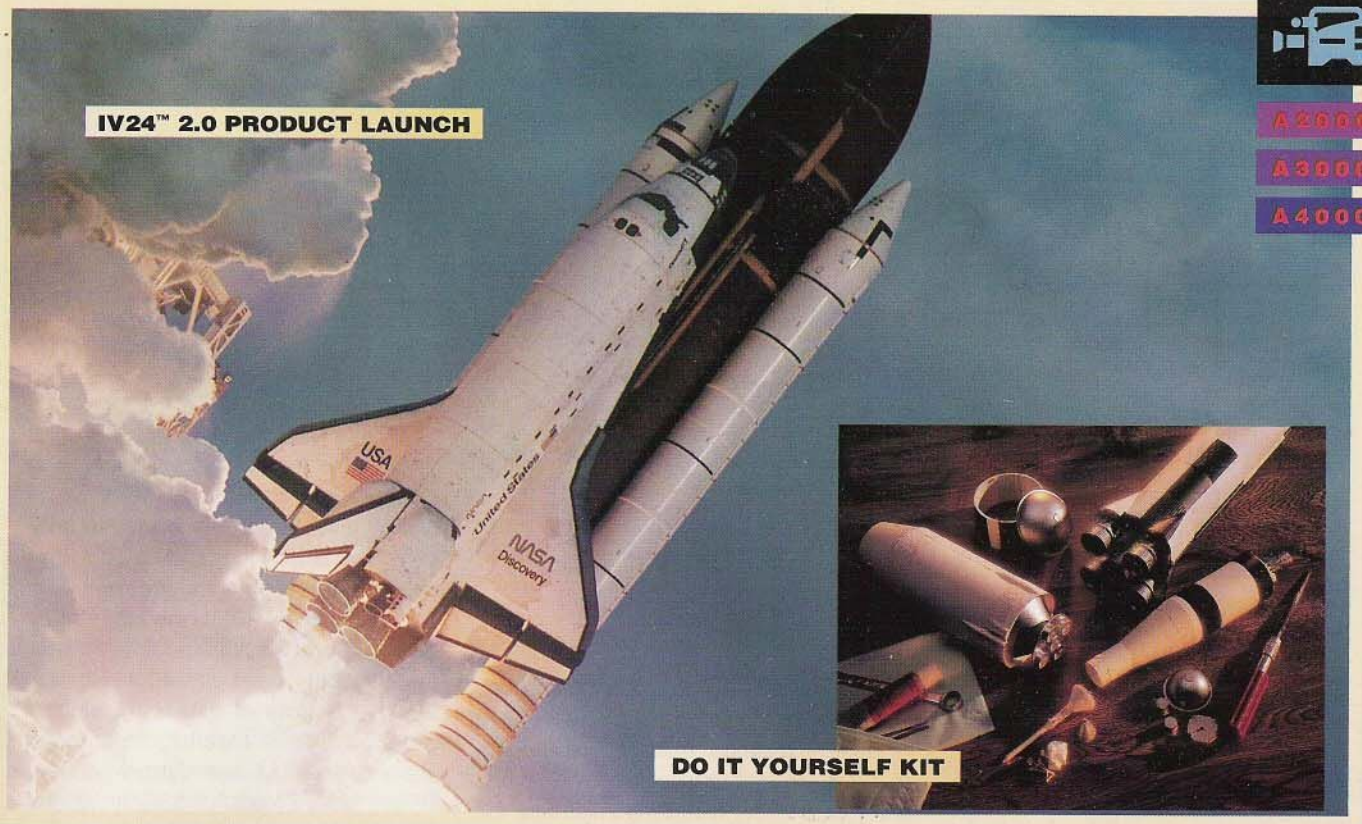
```
BootPri = -129
```

which tells the Amiga that the RAD disk is non bootable, hence the Amiga won't try and boot from it.

Concluding

Experiment and play around with the RAD drive feature of your Amiga and have a go at writing some of your own useful script files. If you come up with something that saves you oodles of time or you think is particularly useful, then send it in to Andy's Attic at PO Box 1335 Hoppers Crossing 3029 and we might include it in a future issue. A quick and easy way to become famous in the eyes of your fellow Amiga users.

Till the next time, have fun. ❑



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Phil Campbell's AGA Entertainment

"First genuine AGA game" from Australian developers

Geelong-based software developers Digisoft Australia (052) 742 067 recently displayed their first commercial title, *Overkill*, an incredible shoot-em-up designed exclusively for the Amiga 1200 and other AGA based Amigas. While the game itself is a fairly standard horizontal blaster, the slick 256 colour parallax backgrounds are incredibly smooth, adding a real sensation of depth. Watch for a full review soon.

Hot Point Software now cooking

In this month's mag you'll find a long awaited bunch of reviews of titles from Hot Point Software, the newest player in the Amiga software market - and next month, there are plenty more to come. Hot Point promise to source leading games from all around the world, and we'll see them first here at ACAR.

Campo launches Amiga Rugby Game

David Campese, hailed as the world's greatest rugby player, has teamed up with Sega-Ozisoft to launch a new rugby game for the Amiga. Called *Campo's International Rugby*, the game has just been released. Specially designed for Aussie players, the game begins with a rendition of *Advance Australia Fair*. Players can select one or two player mode, and choose from 16 international teams. Up-to-date team lists are included for each team, including Australia, the Springboks and the All Blacks.

The game features different competition levels, including tours, friendly games and the World Cup. Field conditions can be determined for each game, including match length, and wind strength. "The distinctive Aussie flavour of the game will ensure Australian fans get as much enjoyment from the game as they would from a live match," promises Sega Ozisoft's Craig Addison. Find out if he's right in next month's ACAR.

A visit to Metro Games

Now one of the major players in the Amiga entertainment market, Metro Games is a division of the giant Melbourne toy distributor Playcorp. On a recent visit to Playcorp's offices, we interviewed Metro's Sam Stewart. A cheerful Amiga enthusiast, Mr Stewart also keeps a strong hand in the IBM PC, Nintendo and Sega Markets. In fact, as we sipped coffee in the Metro Display Room, there were Sega and Nintendo consoles everywhere. "Cartridge machines are here to stay," says Mr Stewart, "but the market will level out."

Mr Stewart maintains there's still a strong market sector for Amiga games - "We'll be doing our best to support the Amiga well into the future. For one thing, I love the machine myself."

Titles like *Chaos Engine* and *Historyline* are selling strongly, and bode well for the future. "We've got some lovely stuff coming later this year," says Sam. "Wait 'til you see it!"

ACAR Entertainment Hints Disk

What's the fun of a game if you're stuck in the middle of level 3 and there are still 15 levels left to explore? Or for that matter, if you're still back in level 1! Here's help. Here at ACAR, we've been publishing hints and tips for Amiga games for years - and now, they're all available on two Amiga disks. In fact, there's plenty more as well - full solutions for a heap of games we haven't even published, together with maps, cheat-codes and loads of other goodies. Where do ya' get it? Simply send a blank disk for each hint disk you require, together with a stamped self addressed envelope and a cheque or postal order for $5.00 per disk to ACAR Hints Disk, c/o Phil Campbell, PO Box 23 Maclean NSW 2463. And we'll get back to you shortly.

ACAR PD Games Collection

The world of public domain software can be confusing - especially if you're trying to track down some decent games. Here's some good news! Regular ACAR contributor Graeme Beaven has compiled a single disk collection of some of the best ever PD Games. The Official ACAR PD Games Collection features some real classics. Try *Amoeba Invaders* for a start - a faithful recreation of the game that started the video arcade frenzy. There are two full *Arkanoid* clones, otherwise know as "Breakout" - they're incredibly addictive. There's a nice version of the card game *Patience* too - don't let Windows users have all the fun!

Add half a dozen more equally addictive games, add a slick menu-driven front end, and you've got a pile of fun. Want a copy? Then simply follow the Hint Disk instructions above - send a blank disk, a cheque for five bucks and

a SSAE to Phil Campbell, PO Box 23 Maclean NSW 2463.

Metro Chaos Engine winners

The following three hardworking readers have won themselves a copy of the excellent *Chaos Engine* from Metro Games. We asked you to scramble the letters of CHAOS ENGINE and put them back together in as many words as possible. To those who gave up before they reached 100, all I can say is ... better luck next time. To Bart Leary, who signed off with the words "I've got to be up there this time," and a hopeful count of 312 ... tough. You're not. (Close though, Bart, very close.)

So, without further ado, the winners are: Phil Kernick of North Adelaide SA with 431 words. Ron Ashby of Berrigan NSW with 384 words. Ms G Cook of Wulgura Qld with 356 words.

Congratulations! Your prizes are on the way, courtesy of Metro Games.

ENTERTAINMENT HINTS & TIPS

Regular contributor Graeme Beaven, from Wyong NSW, has sent a stack of game hints and tips that he says have never appeared in ACAR before. I'm not so sure about that, Graeme, but we'll print them anyway - after all, there are plenty of new readers out there! So here we go with Graeme's A to Z of handy hints ...

Action Fighter: Type "ZBACKDOOR" on the high score table for infinite lives. **APB:** Type "ALF" on the high score table for infinite demerits. **BAAL:** Type "LOVEBUNDLE" on the high score table for cheat mode. **Battle Squadron:** Type "CASTOR" during the game to stop collision detection. **Better Dead Than Alien:** Type "CHAMP" on the options screen and press the function keys during the game for different effects. **Blood Money:** Pause the game and press 'Help' for infinite lives. **Cabal:** Type "SCHLIKA" while playing and press F2 to finish the level. **Chariots of Wrath:** When asked to "press fire to start", push your joystick forward for infinite lives. **Chuck Rock:** Type "FAST AINT THE WORD" when the band plays on the title screen for infinite energy. **Crystals of Aborea:** Select Jerel and click on the bottles icon and then press 'Ctrl V' for full health points. **Dominator:** Type "SHAFT" on the high score table for infinite lives. **Dragon Ninja:** Type "TERRIFIC" during the game and F3 for infinite lives and 'L' to advance one level. **Dragon Spirit:** Press F9 to pause the game and type "DRAGON HEAD", and press F10. **Eliminator:** Press 'HELP' once the game has loaded and enter a level password.

02 AMOEBA
03 BLOOOP
04 CHEEKI
05 DOINOK
06 ENIGMA
07 FLIPME
08 GEEGEE
09 HANDEL
10 ICICLE
11 JAMMIN
12 KIKONG
13 LAPDOG
14 MIKADO

Enduro Racer: After the countdown type "CHEAT". Now press 'T' for an extra 10 seconds 'S' to advance one checkpoint and 'F' for turbo speed. **Emotion:** Type "MOONUNIT" on the title screen and press Return. F1 will advance a level, F2 goes down a level, F3 advances 10 levels, and F4 goes back 10 levels. **F-29 Retaliator:** Type "CIARAN" on the enrolment screen and press Return. Your name on the pilot log should be "OCEAN OK". Now you can fly any mission with infinite weapons. **Gods:** Type "SORCERY" on the password screen for infinite energy. **Hillsfar:** Press the "F" key to force locks or press the 'Esc' button to pause the game while you select the correct lock

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pick. **Hunt for Red October:** Save your game if you are surrounded by enemy ships. Now restore the game and the ships have disappeared. **Ikari Warriors:** Type "FREERIDE" on the high score table to be invincible. **Karate Kid 2:** Type "MYAGI" on the high scores table and press 'P' when playing, to advance a level. **Killing Game Show:** Press 'Help' when viewing the replay and you can restart from that point with five lives. **Ninja Spirit:** Pause the game and press 'LEFT SHIFT' to turn off collision detection. **Outrun:** During the game type "RED BARCHETTA" then press 'T' for more time and 'G' to advance a stage. **Pacland:** On the title screen type "AVALON" for infinte lives. **Rambo III:** Type "RENEGADE" on the high score table and press 1, 2, or 3 for the appropriate level. **Rolling Thunder:** Type "JIMBBBY" on the title screen for infinite energy. **R-Type:** Type "SUMITA." (with full stop) on the high score table for infinite lives. **S.D.I.:** Type "ALERIC" on the high score table and press the function keys **Shinobi:** Pause the game and type "LARSXVIII" for infinite lives. **Sim City:** During the game press the 'CAPS LOCK' key and type "FUND" for extra money. **StormLord:** Type "DRAGONBRIDGE" on the credits screen then during the game press the 'SPACE BAR' to pause and press 'L' to advance a level. **Sword of Sodan:** Type "NANCY" on the high score table for infinite lives. **Toyota Celica G.T. Rally:** During the game press 'CONTROL C' to finish a race. **XYBOTS:** Type "ALF" on the high score table for infinite energy.

Finally, again from Graeme, here are all the level pass codes for **DynaBlasters.** Have fun!

LEVEL	CODE	LEVEL	CODE
1.1	UKCLMNKT	2.7	UKRLEHKT
1.2	UAGWIQNE	2.8	VANWQVNZ
1.3	UAGWIJNA	3.1	UANWIPNA
1.4	UANWIINE	3.2	UAGWIPNE
1.5	MUVWLGPC	3.3	UAGWGVNA
1.6	UKRLMTKV	3.4	VANWIENE
1.7	UAGWGINA	3.5	MUVWLOPT
1.8	UANWIQNZ	3.6	UKRLPHKV
2.1	UANWQVNA	3.7	UAGWGENA
2.2	MUBWNENC	3.8	UANWIPNZ
2.3	UKRLNGKT	4.1	UANWQQPA
2.4	UANWQONE	4.2	MUBWNNEC
2.5	UKCLNBKT	4.3	UKRLNLHT
2.6	MUBWNINC	4.4	UANWQIPE
4.5	UANWQSPA	6.7	UKRLEBHT
4.6	UAGWQSPE	6.8	UANWQPPZ
4.7	MUBWNLZT	7.1	UANWGVPA
4.8	UKCLNNHL	7.2	UAGWGVPE
5.1	UANWIJPA	7.3	MUBWLSZT
5.2	UAGWIJPE	7.4	UKCLPHHV
5.3	UAGWGQPA	7.5	UANWGEPA
5.4	MUVWLGEC	7.6	UAGWGEPE
5.5	UKCLPMHT	7.7	UAVWIOTA
5.6	UAGWGIPE	7.8	MUVWLEEG
5.7	UAGWGSPA	8.1	UKCGNNKT
5.8	UANWIJPZ	8.2	UAGRQQNE
6.1	MUVWNSZC	8.3	UAGRQJNA
6.2	UKRLNGHV	8.4	UANRQINE
6.3	UAGWBVPA	8.5	MUGWNGPC
6.4	UANWQEPE	8.6	UKRGNTKV
6.5	UANWBOPA	8.7	UAGRBINA
6.6	MUBWNOET	8.8	UANRQQNZ

DynaBlasters Level Codes

If you've got any hints, codes or playtips you'd like to pass on to our huge audience of Amiga gamers, write to us here at the ACAR Entertainment Section, PO Box 23, Maclean NSW 2463. We'll love you for ever if you send your hints already typed on a disk - in fact, we'll even send you a free ACAR Hints and Tips Disk! (Specify Disk 1 or 2 and include a SSAE.)!

Australian Commodore & Amiga Review back issues still available

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Played any good platorm games lately? Laetone Gravolin checks out one of the latest as he takes on the role of the cute and cuddly Clyde Radcliff in ...

CREATURES

FACTBOX

Creatures is a fairly stock-standard platform game with a high cuteness factor. Fun to play, but not much distinguishes it from other games in the same genre.

Ratings

Graphics:	85%
Sound:	67%
Gameplay:	72%
Addictiveness:	81%
Overall:	76%

Distributed by Hot Point Software (02) 428 7791. RRP $69.95.

Have you ever seen cartoons where a character runs, falls down a hole and you see the screen go black? Suddenly pairs of eyeballs start blinking at you! Does this tell you that there are monsters down there? Or even worse ... *Creatures*!

This fast grinding platform game has a unique plot. It starts off way out past the Milky Way on a planet named Blot - yep, just plain old Blot. It's a very pretty place, but deserted since its inhabitants were forced to flee from an awful fate. As you might expect, the inhabitants of planet Blot would have to be called ... oh yes, of course ... Blotians! These creatures had to build a spacecraft in a hurry, and look for a new planet. They spluttered off into deep space in search of a trendier planet. In the meantime, they renamed themselves the Fuzzy Wuzzies.

Unfortunately their ship ran straight into the path of a monstrous asteroid which led to a crash landing on Earth. They landed right next to an undiscovered island which they named "The Hippest Place In The Known Universe". The demons on the far side of the island heard about this and were horrified at the new name. They came up with a cunning plan to put an end to the commotion of the Fuzzy Wuzzies. They invited them to the biggest party ever held on the island. These Fuzzy Wuzzies absolutely loved a party - in fact you could call them party animals. So the day came when all the Fuzzy Wuzzies came to the party and just as they were enjoying themselves, the demons threw a net over them all and carried them away to torture chambers ("How can anyone hurt these cute creatures? Pass the chainsaw!")

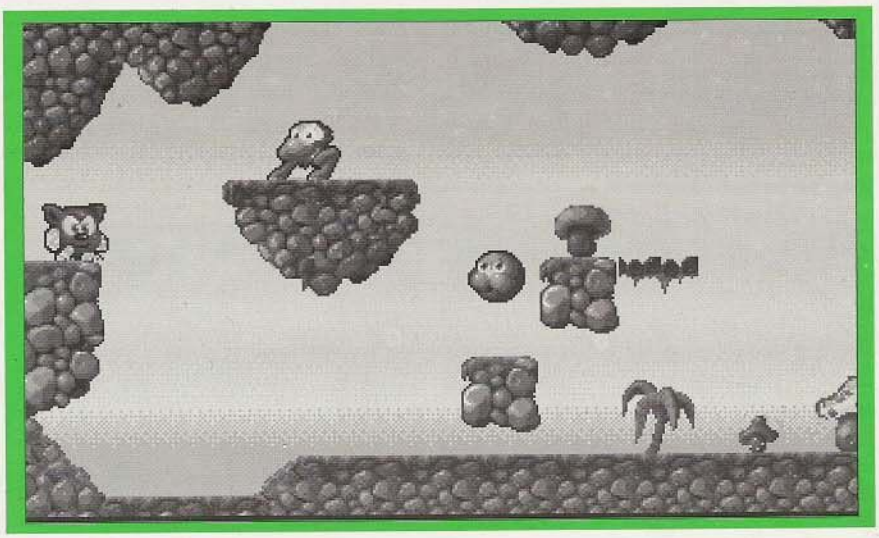
All were captured except one little lonely Fuzzy Wuzzy. So now it's up to Clyde Radcliff to save all his friends and destroy the demons.

Unfortunately, gameplay is a tad slow. Control is by joystick, and the game consists of Creatures of all sorts out to stop you from destroying the demons. You control fuzzy little Clyde, and armed with a "Droopy" shooter you are nearly unstoppable. Through the levels, your task is to collect specimens of certain creatures. Give them to the good witch, and she will make them into more powerful weapons.

The graphics are very smooth and the animation is good. All the creatures are incredibly cute, and if I was brave enough to be sexist, I'd say it's the sort of game most females would probably enjoy. But I'm not. So I won't. The smoothly colour graded sky adds a nice background effect - all done with the Copper List, for the sake of you techie types. Please note, you won't see the background effect in our screen shot. Sorry about that!

The music has a eerie tinge that gets frustrating during game play. There is a time limit on the levels which in some instances gets you into gear. Obstacles like water are easily overcome by a power leaf that hovers along the water at incredible speeds. Be careful though, there are traps everywhere!

This game is just above average. Its very weird plot gives it a world of its own, but overall it's a pretty standard platform game. Oh, and by the way ... *Creatures* stands for Clyde Radcliff Exterminates All The Unfriendly Repulsive Earth-ridden Slime. ❑



Here's a game that's very much like an old favourite - only heaps better. Phil Campbell slips on his gumshoes and checks out ...

FLASHBACK

FACT BOX

A superb action adventure featuring top rate animation. Highly recomended.

Ratings

Graphics:	95%
Sound:	83%
Gameplay:	96%
Overall:	94%

Distributed by Sega-Ozisoft (02) 317 0000. RRP $69.95.

Conrad Hart is a galactic spy - a special agent with the Galaxia Bureau of Investigation. He's also the closest thing I've seen to "real-life in a box" - Channel 7's Stan Grant included.

Most games never quite bridge the gap between artificiality and reality. You never quite manage to suspend disbelief - the game remains a game, and the characters on the screen are never more than a moving collection of coloured dots. But sometimes, there's that extra touch of magic that brings a game to life.

It happened first with *Impossible Mission*, a game written for the ancient but venerable Commodore 64. You controlled a character who moved with incredible grace and agility, responsive to your every quiver of the joystick. It happened again with Jordan Mechner's classic *Prince of Persia*, and the more recent sequel - again, the magic came from a leading character who moved like a person instead of a digital dummy.

And now, it's happened again. *FlashBack* is simply superb. With 24 frame per second screen updates and a main sprite (that's technical-talk for a movable game character) with a remarkable repertoire of actions, you'll soon start to think you're controlling a real character in a real world.

The year is 2142, and Special Agent Hart is in heaps of trouble. Running routine matter-density tests for the Bureau, Hart stumbled on the fact that some of his random test subjects had twice the body density of normal human beings. Yep, you guessed it - alien infiltrators, set to take control of the known galaxy. But before Conrad can file his report, he's captured; his memory is erased, and he finds himself teleported to the centre of a jungle in an inhospitable planet on the far side of the galaxy. So you thought you were having a bad Monday?

The jungle backgrounds are lush and green, fading into a distant haze. As you take control, Conrad is just waking up on grassy knoll. You're watching the action side-on. Nudge the joystick or press a cursor key, and he will take his first steps. Immediately, you'll notice the quality - you can almost sense the muscles pumping as he moves.

Time for some serious exploration. With a downward push on my joystick, Conrad somersaults from the grassy outcrop onto the ledge below - an Olympian manoeuvre I could never imitate in real life. An overgrown machine to my right indicates the planet is far from deserted. In fact, a few steps along the pathway and I'm under fire from one of the unfriendly natives. With lightning reflexes, I draw my pistol and fire back - the recoil throws back my arm as the empty shells are ejected from the chamber. Exciting? You bet. And it gets better.

In the end, I guess you could say *FlashBack* was just another side-view, platform-style, action-adventure game. And you could probably throw in a few more hyphenated adjectives as well. But that doesn't really do this game justice. There's a huge world waiting to be explored - including a whole subterranean city beneath the jungle - by one of the most realistic characters yet to walk across my screen. Conrad is so lifelike you'll find yourself wanting to take him home to dinner. And best of all, *FlashBack* is simply lots of fun to play!

Luke Tattersall hops into a game that he says is the best thing he's ever played. Read on, and find out all the froggy facts in ...

Superfrog

FACTBOX

A superb and addictive platform hopper, featuring best-ever cartoon style animation. What more could you possibly ask for?

Ratings

Graphics:	96%
Sound:	81%
Gameplay:	95%
Overall:	94%

Distributed by Hot Point (02) 428 7791. RRP $69.95.

First there was Atom Ant. Then there was Fearless Fly. Now a new hero has burst onto the screen (computer screen that is) - Superfrog.

Superfrog - well, you could hardly say that the title jumps out and grabs you. I mean, you very rarely see a frog cast as a super hero - except for maybe Kermit. But this frog is different.

The plot is not new, though it does have an unusual twist. The prince and princess live happily in their kingdom. The evil jealous witch puts a halt to their happiness by taking away the princess and turning the prince into a frog.

All looks hopeless until the prince (or frog) stumbles across a bottle of Lucozade. That's right, Lucozade. When he drinks from the bottle he is instantly transformed into Superfrog. With his new-found powers he sets off to find and rescue his princess from the clutches of the evil witch.

Superfrog has to make his way through five different worlds in pursuit of his princess. He begins in the forest but must also negotiate a castle, a circus, a pyramid - and finally, the arctic. Each world has its own traps and problems that you'll discover on the way.

The first thing that hits you about *Superfrog* is the stunning graphics. There is nothing 'blocky" or stilted about this at all. Superfrog looks very much like a cartoon character wlth great looking movements and wonderful facial expressions. The graphics are sharp, clear and colourful.

The scrolling is fast and smooth. I have no doubt that when I go back and play some of my older games they are going to look very ordinary compared to *Superfrog*.

The music fits the game brilliantly. There is a different musical score for each world (spooky music in the castle, Egyptian music in the Pyramid, etc. The SFX are very high quality. The sounds from Superfrog himself really make you think the little guy is alive.

Each world has four levels that must be negotiated. On your way to the end of each level you must collect enough gold coins to exit. There is a counter in the bottom right of the screen to tell you how many more you need. Depending on the world you are in, there are also some critters that you have to deal with - bees, bats, turtles, etc.

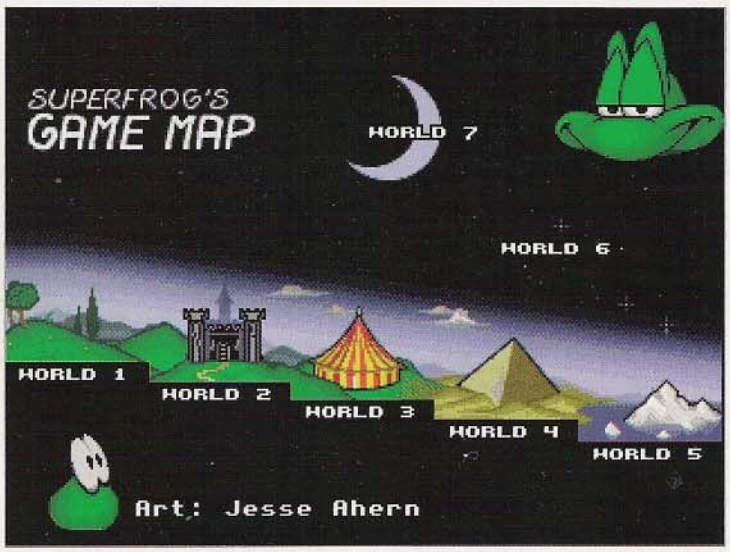
If you sustain any injury on your journey you will see the energy meter slip down a notch - but don't worry. You can replenish your energy very easily. How? By drinking extra bottles of Lucozade, of course.

Along the way you can also collect fruit. While it adds very little to your score it is worthwhile collecting as much fruit as you can for the Bonus Round at the end of the level.

The part of *Superfrog* my five year old daughter loved the most was the Bonus Round. At the end of each level you are given bonus points depending on the number of coins or fruit collected and the amount or time taken to complete the level. You can take the points or convert them into credits that can be used on a "Fruit Machine" (we call them Poker Machines in Australia). If you choose to play the Bonus Round you can add a heap of points to your score or, best of all, you can get the level code for the next level. This comes in really handy if you want to come back later and pick up where you left off.

It's been a long time since I have been so enthralled by a computer game.

For me, *Superfrog* is an absolute winner. My wife hates it. My daughter loves it. These are two very important criteria for assessing a game, and it scores very highly on both counts. By the way, I did make it to the end and I have all the level codes for the entire game - even the hidden world. My highest score is 2 101 100 but I plan to better that. Right now, in fact!



Resident ethicist Greg Munro ponders the rights and wrongs of games where the sole intent is to beat other people up. And this one is a classic.

BodyBlows

Some beat-'em-ups try to justify their mindless violence with some storyline about rescuing kid-sisters from mean and nasty drug gangs, or saving the world from some evil dictator. The British have always been more realistic about these things, however, and prefer to tell it like it is (Team 17, who made the game, are from Yorkshire). Listen to this description of Nik, one of the seven combatants you can choose to play. He is a "... downtown gang leader. His desire to win is only matched by the hatred of his brother ... he uses this devastating force to summon a powerful electro-bolt which leaves his opponents reeling."

Dan, his elder brother, a rival gang leader, "shadows his brother every step of the way. Like Nik, he is able to draw upon inner energies to produce a devastating bolt of pure aggression."

So that's the basic idea of the game really - use this "pure aggression" to beat the crap out of someone. It may reflect the truth about human nature - remember Cain and Abel? We've all wanted to beat someone up at some time or other. But do we really want to teach kids this kind of behaviour is desirable and rewarding? What happens at the end of each round reinforces this idea. The winner does a little victory dance and shouts in excellent digitised speech some cool saying, like "Get outa here ..." or "Ninjaaaaa!" The loser's face is pictured bloodied, cut and swollen at the top of the screen.

There are several backdrop scenes to play against, ranging from a boxing ring to a Shaolin Temple. You can choose one or two player modes, and any of seven characters. There is even a tournament mode which allows for up to eight players to take part in a knock-out (literally!) tournament. You can play the same character against itself, which is useful, because they are not all equal in speed, strength, agility and special powers.

Some of the characters are quite amusing in their antics, like Dug, a fat slob who does belly flops onto his opponents, a la Hulk Hogan. There is only one woman, Maria, which may mean the game is sexist, or then again, maybe it just reflects reality - women are more sensible and don't go in for this kind of aggressive competition so much! The character I found easiest to win with was Ninja, who has a nasty habit of slicing people with sharp pointy implements.

BodyBlows is better than most Martial Arts games in its user interface. The joystick commands work well, with a wide range of movements possible. The game should run on any Amiga with 1MB RAM or more. It supports extra drives, which is good, since it comes on three disks. It is also available for CDTV, if your system supports joystick control. Like most games, *BodyBlows* is heavily copy-protected and cannot be installed on a hard disk. Thanks to all you thieving pirates who make it necessary for software companies to do this!

Overall, technically superior, ethically dubious. Great graphics and sound, addictive gameplay, interesting effects. But very violent. The Federal Government is talking about including software in its censorship ratings system. If it does, games like *BodyBlows* should score at least a PG rating, and preferably M. If you're a parent, not recommended for the kids. If you're a kid, don't tell Mum you're playing it - she'll hate it!

FACTBOX

BodyBlows is a nasty little beat-'em-up that's very well done. Maybe it'll let your kid brother work out all his aggression on the screen - or maybe it'll just give him some brutal new ideas!

Ratings

Graphics:	90
Sound:	75
Playability:	95
Addictiveness:	90

Distributed by Hot Point Software (02) 428 7791. RRP $69.95.

Special Feature

Dark Seed

Full Solution

Darkseed is one of the most impressive Amiga adventure games this decade - but it's tough. So come along with resident games guru Mark Harris for a blow by blow description of the gameplay. But be warned! If you read right through the solution, you might just lose some of the thrills.

Day One

What you will need and where to find it:

Item	Location
Aspirin	Cabinet in the bathroom
Library Card	In the pocket of the raincoat
House Plan	On the desk in the study
Rope	On the floor in the secret room no.2
Watch	Under the bigger trunk in the attic
Crowbar	In the boot of the car in the garage
Gloves	In the car's glovebox
Diary	Large trunk in the attic
Bobby Pin	Floor of the library in front of the desk
Scotch	Buy from the store
Clock Case Key	Tuttle Tomb. Urn Room

The first thing to do when you get up on Day One is to rid Dawson of his headache. This is done by taking the aspirin in the bathroom cabinet - while you're there, take a shower. Next, wander into the spare bedroom to the right. Use the "!" cursor a few times to discover the library ticket in the pocket of the raincoat. From here go downstairs to the study. Read the plans to discover the secret rooms. You can now open the bookcase on the right and enter secret room one.

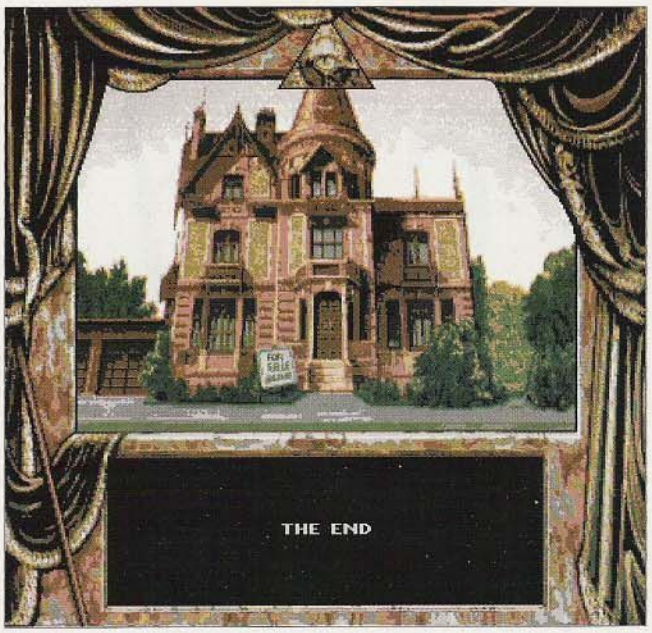
Once you have entered it is important to leave the door open - otherwise you can't use the turbo-lift in the Dark World. Climb the ladder and take the rope before exiting to your bedroom. Whatever you do don't forget to leave the door open.

Go downstairs again and wait for the postman to call (no, he doesn't ring twice). If you press T the time will pass quicker. Open the door to the postie and receive the slightly unusual parcel before going up to the attic. Pushing the large trunk on the right forward reveals the exit to the balcony and the watch. Pick up the watch and wind it by clicking on it. You can now find out the time, which is vital. Don't forget to wind the watch at odd intervals, or it runs down. Go out onto the balcony, tie the rope to the gargoyle and you have a convenient rear access. Always enter and exit the house through the front door for now.

Take a trip down to the garage and and take the crowbar out of the boot of the car. Next you should obtain the gloves from the glovebox in the car, and while you're there amuse yourself by sounding the horn and turning on the radio - don't forget to turn the thing off when you're done! (SAVE).

Go back into the house. Don't forget to read the newspaper on the pavement. Now walk back upstairs. The phone will ring so go into your bedroom and answer it - don't take too long or you'll miss it. It's the librarian telling you to come and collect a book. In the meantime, climb up to the attic and use the crowbar to get the diary out of the big trunk. Read it. Now go outside and head towards the town. Enter the library and find the bobby pin in front of the desk. Next talk to the librarian - she'll direct you to your book which you should take and read. Go back to her again and give her your library card. She'll tell you where to find the other book it should go with. Inside you'll find the missing piece of the diary - this is essential reading. On your way back, take time to go to the store. You need to buy the Scotch, so first pay the store keeper and then take the demon drink. Your alcoholic neighbour will now make an appearance and give you a "Get Out Of Jail Free" card - this will come in very handy tomorrow. Go past the house and take a trip to the graveyard and, beyond you will find the Tuttle Crypt. Enter the crypt by following the instructions in the diary excerpt and head to the urn room. You will find the key to the clock case in the urn on the far left of the bottom shelf. Take this and head back home. Once home, use the key to open the clock case in the living room and admire the John McKeegan nameplate. Take the time to examine the mirror and the painting over the mantle piece.

Put Dawson to bed now - he needs his sleep, and tomorrow is going to be a long day. (SAVE).



Day Two

What you will need and where to find it:

Item	Location
Mirror Fragment	Postman delivers it
Shovel	Catacombs entrance
Diary Fragment	John McKeegan's grave
Gun	Police station
Stick	Delbert's back yard
Headband	From Sargo in the dark prison corridor
Microfiche	From the Keeper Of The Scrolls

Following the bizarre and, it should be said, macabre dream, you wake up as before. You should shower and take your aspirin as before. Before the postie arrives, go and have a listen to the car radio - you'll help Dawson discover that what goes on in one world is reflected in the other. Go back into the house through the front door - by the way, from now on it's okay to use the rope, and often essential. This time, though, use the door. Press T a couple of times to pass the time before the postie arrives. Take the mirror fragment that he brings and use it on the mirror in the living room.

This completes the portal to the Dark World, so take the opportunity to cross over. Take the right hand door in the nursery to the room of skulls and then take the room on your left. This room contains the plans for the embryo implanting. The plans can't be picked up so just use the "!" cursor to read them. Take the right hand door into turbo-lift one room and step into the lift on the far wall. This will teleport you to the second turbo-lift room, from which you should exit left onto the observation deck. Use the gloves (to avoid electrocution) to activate the switch between the two exits. This will reveal a previously hidden door in the skull room, so go back there and go through the new door. Keep going left and you will find a shovel, which you should pick up and save for use later on. Leave the Dark World and take a jaunt to the graves and exhume the body of John McKeegan with the shovel. Read the last bit of his diary, which advises you that you need to get the car started and break the mirror, and suggests how this could be done. When you get home you'll find yourself under arrest for grave robbery. The "Get Out Of Jail Free" card will see you out before long, but first you should stow the bobby pin, the gloves and the money under the pillow in your cell - they'll come in mighty useful in a while. Get out by rattling the tin cup against the bars and giving the card to the policeman. You will just have enough time to steal the gun which is located just over the desk on the wall. Go and meet Delbert as arranged. He'll meet you in your backyard rather than his, but follow him next door. He will ignore you until you give him the Scotch. He'll leave you, but take the stick that the dog leaves behind.

Return to the Dark World and take the right hand door into the skulls room and go through the door that the lever opened. Keep on going right until you encounter Dark Fido, the dog - type "guardian that guards the bridge over the abyss". (SAVE).

To get past him simply throw the stick over the side and watch him chase after it! You are now free to continue

right to the Dark Police station. You will find your gun confiscated and yourself incarcerated. Test the synchronicity theory by retrieving from under the pillow the items you stashed there earlier. The bobby pin now comes in very handy as a means of picking the lock, but you may need a few attempts before you are successful. Once out you will meet a fellow prisoner by the name of Sargo who, having seen what you've just done, offers you an invisibility inducing headband in exchange for the bobby pin. Seems a fair swap, but don't use the headband now - it only works once and for a limited period, so deploy it only when you need to - which is soon. Walk out of the passage and past the Drakketh Factory (which, like the barber shop, you can't go in). (SAVE).

Now you will find yourself at the front of the Archives building, and now is the time to use that headband.

Now, invisibility assured, you can walk past the guard and into the chamber of the Keeper Of The Scrolls. Turn the machine on and you will see an image of the Keeper. She will then give you a roll of microfiche which will come in useful tomorrow, but for now head home and get some sleep!

Day Three

What you will need and where to find it:

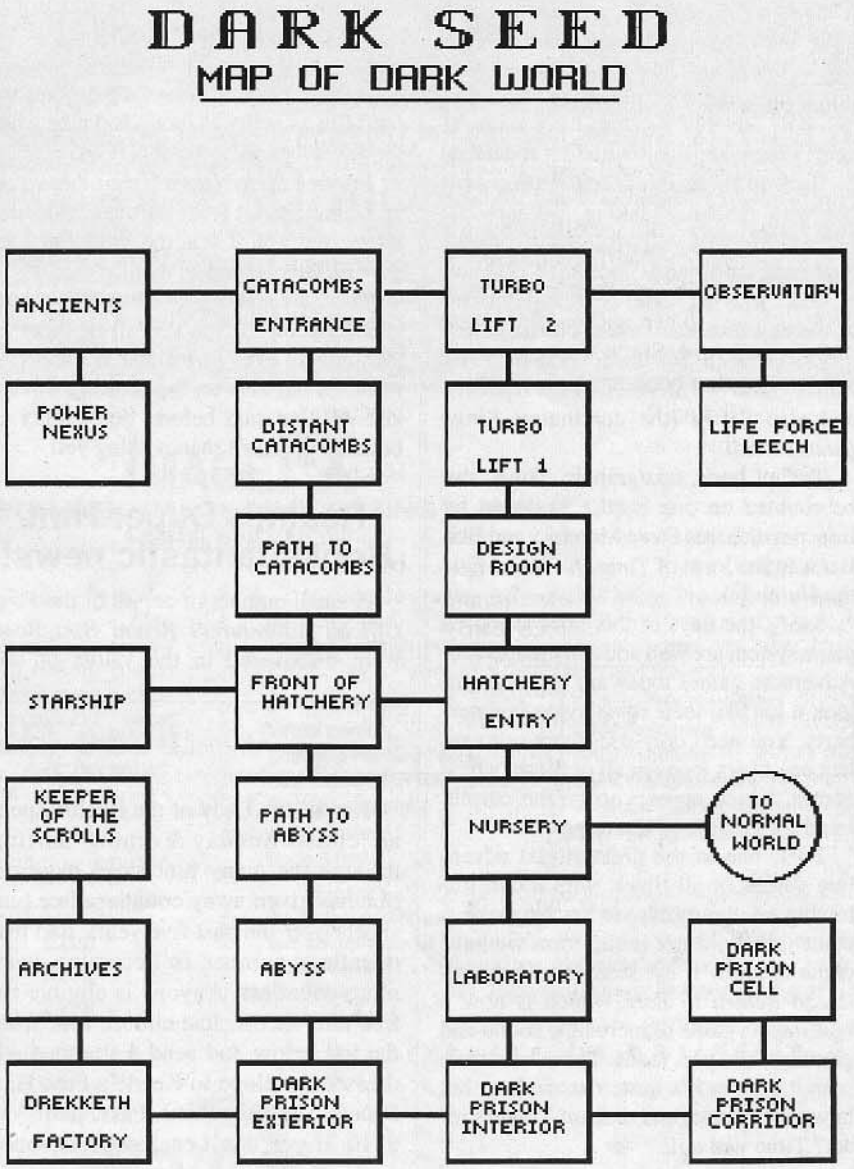
Item	Location
Axe Handle	Delivered by postman
Scotch	Store
Car Keys	Under Stone In Cellar
Stone	Cellar

Take your aspirin and shower as normal. Go downstairs and wait around for the postman to arrive. He'll bring you a package from the Keeper Of The Scrolls which contains the axe handle. Useful item this, but not straight away - so save it for later. Now take a trip down town, using the rope from the attic. Always use this as your entrance and exit from the house as police have staked out the front, but are blind to the comings and goings from the rear. Go into the periodicals room in the library and turn on the microfiche reader. Pop in the roll of film and read the bit about home improvements (not the TV show). Dawson has now learned that the keys to the car are in the hiding place in the cellar, so hurry back home and pick up another bottle of scotch on the way.

Get inside the house using the rope and head down into the cellar. In the middle of the floor there is a loose stone. Pick it up, and pick up the keys which are stowed underneath. Now cross to the Dark World once again and take the stone to the power nexus. Use the machine on the left to energise the stone, which should then be put together with the axe handle to make a hammer. Hurry back to the Normal World and go into the garage. Fill the petrol tank with Scotch (what a waste!) get into the car and, using the keys, turn on the ignition. Leave the engine running as you cross once more into the Dark World.

Enter the spaceship (the small opening on the left outside the front of the hatchery) and use the gloves on the lever to the left of the computer console. This has started the craft's launch sequence so get out. Once the craft takes off you will find yourself back in front of the mirror in the Normal world. Smash the mirror with the hammer and the world is saved and the game is won! Enjoy the end-sequence.

Congratulations - you've completed *Dark Seed!*



MICHAEL SPITERI'S Adventurer's Realm

This month, Adventurer's Realm notches up seven years of serving the adventure playing public, and my, how adventure games have changed since 1986 when the Realm first appeared.

Back in those days, text games were hot with graphics making fast inroads. For a number of years following, adventure games primarily combined text and graphics in what could best be described as the best of both worlds, with excellent products from Magnetic Scrolls (*The Pawn, Guild of Thieves*, and *Corruption*), and also Sierra (the continuing *Kings Quest* series).

Today, good text/graphic games can be counted on one hand (developed by Infocom diehards Steve Meretsky and Bob Bates in the form of *Time Quest* and *Eric the Unready*).

Sadly, the days of this once favoured game system are well and truly numbered. Adventure games today are beginning to look a lot like their roleplaying counterparts. You need only use a mouse to select one of six icons in all of Sierra's new games, which appears to be the current trend for graphic adventure games.

Zork, one of the greatest text adventure games of all times, with a cult following of thousands, is set to make a comeback - but not in the form we have come to know it by. Activision have released *Return to Zork*, which is now a multimedia game of incredible sound and graphics, and yep, icons. Those who have seen it tell me it's quite outstanding, but how will the original diehard Zorkers react? Time will tell.

So, as Adventurer's Realm enters its eighth year I think it's time we adventurers stopped crying about days gone by (and I'm as guilty as most) and take what the latest technology can give us.

I played *Space Quest V* the other week and completed it from start to finish, and let me tell you it was the most fun I've ever had playing an adventure game.

There are some great adventure games appearing on the market, all of them as exciting as ever - not just commercial releases, but also on the shareware market. As I've said before, don't relax ... because you ain't seen nothing yet!

Realm's Super Hint Books fantastic news!

A small number of copies of the *First Official Adventurers Realm Hint Book* were discovered in the vaults of our Randwick office. If you missed out on a copy the first time around, I can guarantee that this will be the last opportunity to purchase one. The price hasn't changed - $9.00 will buy you a hint book packed with over 40 detailed hints and tips for some top-notch adventure games (pre 1991). The second hint book *Computer Adventure Games - Hints & Tips* contains over detailed hints and tips for over 25 adventure and roleplaying games, as well as pages and pages of blank mapping sheets. This big book is priced at only $10.00. Again, get in early as numbers are dwindling.

The green light has been given for the third Adventurers Realm hint book, and we hope to have it out for you early next year, so watch this space.

You can order the first and second books from Saturday Magazine, 21 Darley Road, Randwick, NSW 2031. Phone (02) 398 5111 for more info, or fax your order on (02) 398 5322.

Realm's Hint Disk

If you'd like an Amiga disk packed with over 90 detailed solutions to adventure and roleplaying games then post us a cheque for $5.00 (addressed to Michael Spiteri), a blank disk, and a stamped addressed envelope, and we'll return it to you packed with solutions before you can say Adventurers Realm Official Hint Disk. The disk was put together by adventure freako Graeme Beavan who has achieved a marvelous feat (you WILL be impressed!).

The address to send your stuff to is: Realm's Hint Disk, 12 Bridle Place, Pakenham, Vic 3810.

Free Hint Sheets

Kerrie, the Lady of the Realm, spent an entire Sunday evening sorting through the many hint sheet requests. She has given away countless free hint sheets over the past five years, and that countless number is becoming even more countless. Anyone is eligible for free hint sheets. Just choose four from the list below and send a stamped addressed envelope to Kerrie's Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810. If you don't enclosed a stamped addressed envelope you won't get your hint sheets.

Mortville Manor/Maupiti Island, Monkey Island 1, 2, Space Quest 3, Space Quest IV, Wonderland, Leisure Suit Larry III, Champions of Krynn, Kings Quest V, Pool of Radiance, Zak McKracken, Zork 1, 2, 3, Bards Tale 1, 2, 3, Hitchhikers' Guide to the Galaxy, Guild of Thieves, Jinxter, The Pawn, Corruption, Faery Tale, and the Clever Contacts Complete Listing 93.

Realm's Trading Post

What originally started as a little corner in the Realm has now blown out to being a very popular segment. This must mean people who are advertising their games here are getting results. If you have something you want to sell, or swap, or even in the hunt for - send me a line. All ads are published for free and appear for one issue only. Software pirates are not welcome here, so stay out!

Darren Chapman of 1a Wearden Rd, Belrose, NSW 2085 wants to buy *TV Sports Baseball* and *Speedball 2* for his Amiga. If you can help Darren out, write to him or ring him on (02) 451 9497.

You can ring Graham Hockey on (064) 959 727 or write to him at 13 Forest Court, Tura Beach, NSW 2548 if you'd like the following cheap Amiga games: *Chaos Strikes Back* + hints ($20), *The Colony* ($15), *Guild of Thieves* + hints ($15), *Jinxter* ($15), *Arazok's Tomb* ($10), *Space Quest II* ($25), and *Kings Quest V* ($30). You can take the lot for $115. Now that's a bargain!

Branco Toth of 20 Valeria St, Toongabbie, NSW 2146 has a few interesting Amiga games that he'll sell or swap. Titles include *Champions of Krynn, Hillsfar, B.A.T, Battle Isle, Conflict: Middle East, White Death, M1 Tank Platoon* and *Joan of Arc*.

Another person who'd like to sell or swap his Amiga games is Paul Gutteridge, 135 Maple Rd, St. Mary's, NSW 2760. He owns the following titles: *MIG-29, Superfulcrum (!), Life & Death, Kid Talk, Volfied, Leisure Suit Larry 5, Oh No More Lemmings Data Disk, Wonders of the Animal Kingdom, Mindfighter, Galactic Conqueror, Mean Streets, Fun School 2, Last Ninja 3, Fuzzball, Baron Baldric, Kind Words, Harley Davidson The Road to Sturgis,* and *Adventures of Robin Hood.* Phew! What a list. Paul would like to own: *Arthur, Deja Vu 1 & 2, Leisure Suit Larry 2, Maniac Mansion, Zak McKracken, Shadowgate, Wizball, Mortville Manor*, or any other adventure games with the same gameplay as *Maniac Mansion*.

Tony Finn of 214 Fernleigh Rd, Wagga Wagga, NSW 2650 has some hot Amiga titles for sale. Tony is offering a sealed *Wing Commander* $60, *Space Quest 4* $40, *Links Golf* $40, and *Howzat Cricket* $40.

Finally, Steven Burns of 2A Arden St, Waverley, NSW 2024 has some great titles such as *Zool* and *Might & Magic 3* for just $35 each, *Robocop 3* $25, *Killing Game Show, Amnios, Alcatraz, Bonanza Bros* and *Supremacy* for $15 each.

Clever Contacts

The huge list of Clever Contact around the nation grows a little this month with one new addition. Welcome Darren Chapman of 1a Wearden Rd, Belrose NSW 2085. Darren can help out in *Space Quest 1 & 2, Monkey Island 1, Pirates, Civilization, Shadow of the Beast III, Railroad Tycoon*, and *A-Train*.

We also have an update in the form of Chris Stratton, 2 Suding Close, Wy Yung, Vic 3875 adds the following games: *Kings Quest 1, Kings Quest IV, Buck Rogers 1, Bards Tale 1*, and *Eye of the Beholder* (maps if need be).

The Clever Contacts are secretly doing a fantastic job out there, and I much appreciate all your efforts. If you've been helped out by a Clever Contact - let me know as soon as possible!

Adventure Chat

Graham Hockey of Tura Beach in NSW writes ... "I have noticed a distinct lack of adventure and/or RPGs over recent times and can't help wondering about the software houses' support for Amiga, particularly following ACAR's comment that Sierra may not be offering anymore games in Amiga format!!"

Mike: Sierra are one of many large software firms that have appeared to abandon the Amiga, but don't lose hope because new suppliers are appearing all the time. Electronic Arts continue to support the Amiga with some great releases and there definitely doesn't appear to be a shortage of roleplaying games. Give it time, Graham, because the new Amigas have a huge potential, and with the price of hard drives coming down expect to see some notable releases. There was no shortage of titles at World of Commodore this year.

David Larsen writes ... "I have read the book *Lord of the Rings* but don't know anything about the games except that Interplay are releasing *Lord of the Rings Part II: The Two Towers* this year. The book was marvelous and I am hungry for any information you may have on these games."

Mike: I loved *The Hobbit*, and although I enjoyed *Lord of the Rings* I found it a bit heavy going. Anyway, if you can get hold of an old C64, both *The Hobbit* and *Lord of the Rings* were Australian made adventure game classics on that machine. As for Interplay's efforts, their games always seem so hard to get. Can anyone provide any light on David's request?

Many thanks to Andy Tyson (who I had the pleasure of meeting at World of Commodore) who sent in a solution to *Dark Seed*. I've printed a selection of hints in this issue. Thanks, Andy!

The Adventure Problem Centre

Starting this issue I have decided to combine Problem, Problems and More Problems (or the Troubled Adventurers Dept) and Help, Help, and More Help (or the Smart Adventurers Dept) into the one segment. That way you can display your problems and give help to others at the same time. Pen Pals can also air their please for pen friends here.

Joshua Maley writes ... "I am definitely stuck playing *Indiana Jones and the Fate of Atlantis* . Where on earth (or under it) is the bronze gear to go into the chest of the robot sentry (at the entrance to the Middle Ring?!? I have searched high and low - is it even in Atlantis?) The items I have currently are the robot part, the crescent-shaped gear, beads, and the bronzed spoked wheel. I am playing the Amiga version, with the Team Path. Help would be greatly appreciated!"

Glen Hogbin of Collaroy writes ... "Tony Finn of Wagga Wagga needed to know how to get started on Level 2 of *Flashback*. In order to get to the higher platform, start Conrad running along the right-hand platform, and while still keep-

ing the fire button pressed - let go of the joystick. This will make him start running, leap, and grab hold of a higher platform. All he has to do then is pull himself the rest of the way up. Easy or what?"

Dale Scott of Innaloo, WA writes ... "I am stuck in a game called *Millenium 2.2* (I don't know what the 2.2 is for. Tell me if you know). I have established my Solagens, researched everything, sent out probes to all planets and satellites, build modules and fighters and turned on mining. How do I colonise a planet or satellite. Please help!!"

Bas Reeve of Timaru, New Zealand, stuck in *Ultima 6*, writes ... "To start with there is supposed to be a lady by the name of Phoenix down under the castle, but I can't find her. Then, in Dungeon Wrong, I can't get down to the Second Level where there is a piece of the map. There are some force fields in the doorways and no amount of pulling levers or moving switches will remove them. The Dispel Spell doesn't work, either!!"

Realm's Birthday Issue Hints & Tips

Darkseed (sent in by Andy Tyson)

- Always leave the door to the secret room in the main bedroom open.
- Buy some booze from the grocery.
- Move the trunk to enter a balcony.
- Use the pocket watch to synchronise with the large clock in the lounge room.
- The gargoyle will be your only method of leaving the house after Day 3.
- Go to the bathroom if you have a headache, and take a shower.
- A handy weapon can be found at the police station.
- Evil Fido is nasty but also stupid, so throw the stick into the abyss.
- Maybe the prison cell lock needs to be picked more than once.
- A good place to hide car keys are under a loose flagstone.

Maupiti Island (from the Realm Hint Sheet)

- There is a hollow floorboard in Maguy's room.
- In the Pirate's book, the page which reads "From the north to the south..." applies to Maupiti and gives the instructions for opening the Jewel Case and Medallion.
- When the tide is down at 4 o'clock, use the binoculars to look at the statue in the pond.
- Turn the coat hook in Roy's cabin. There is something else which needs turning.
- Sound and raise the hollow stone in the garden.
- Look under the cupboard in Juste's hut.

Space Quest V

- Use the monkeys and your pet to rescue Scotty from prison.
- Take a close look at the canister on the deserted planet.
- When playing the form of battleship, place all your ships on one level only.
- A frog's hunger for you can set off the communication device.

Kings Quest V

- Be good to bees and they'll be good to you, so save them from the nasty beast.
- The talking tree would love something from the forest to restore her to her original beauty.
- To escape from the forest, mix jewels with honeycomb.
- Visit the gypsy before tackling the snake.
- To join Cedric, use boulders as stepping stones.
- Use the rope from the Inn to cross the frozen waterfall. Don't use the branch, though.

Battletech

- Civilian clothes will get you out of a dangerous situation.
- Leave your mechs outside and enter the cave on foot.
- Certain computer terminals contain secret codes.
- Enemy troops only have rifles compared to you infernos.
- Jerimiah Youngblood might never be found - so don't try!
- Edward can't be trusted, so tread carefully.

Pools of Radiance

- Break down doors to get into Mendors Library. Defeat the basilisk here using mirrors.
- At the Slave Camp, rescue the young boy.
- At Podol Plaza, don't bet for the valuable weapon. Just listen.
- If you get abused by the monsters, abuse them back.
- A silver bottle after killing the Kobold King will tackle the vampire at the graveyard.

Monkey Island I

- You need a monkey nose before you can explore the monkey head.
- Make sure you visit Captain Hook's isle ... with a rubber chicken!
- A ship isn't much use without a crew, so check out the Sword Master.
- Another crew member could be the poor bloke in jail.
- Use the feather to get the grog.
- Use some magnetic charm to get the key.

Where to Write To

For all adventure problems, hint sheets, hint disks, chat, comments, gossip, trading post, hints and tips, write to: Adventurers Realm, 12 Bridle Place, Pakenham, Vic 3810 For all roleplaying game problems (no hint sheets), write to Kamikaze Andy in his Dungeon ... Realm's Dungeon, PO Box 1083, Canning Vale, WA 6155. And remember ... always enclose a stamped addressed envelope when writing to the Realm.

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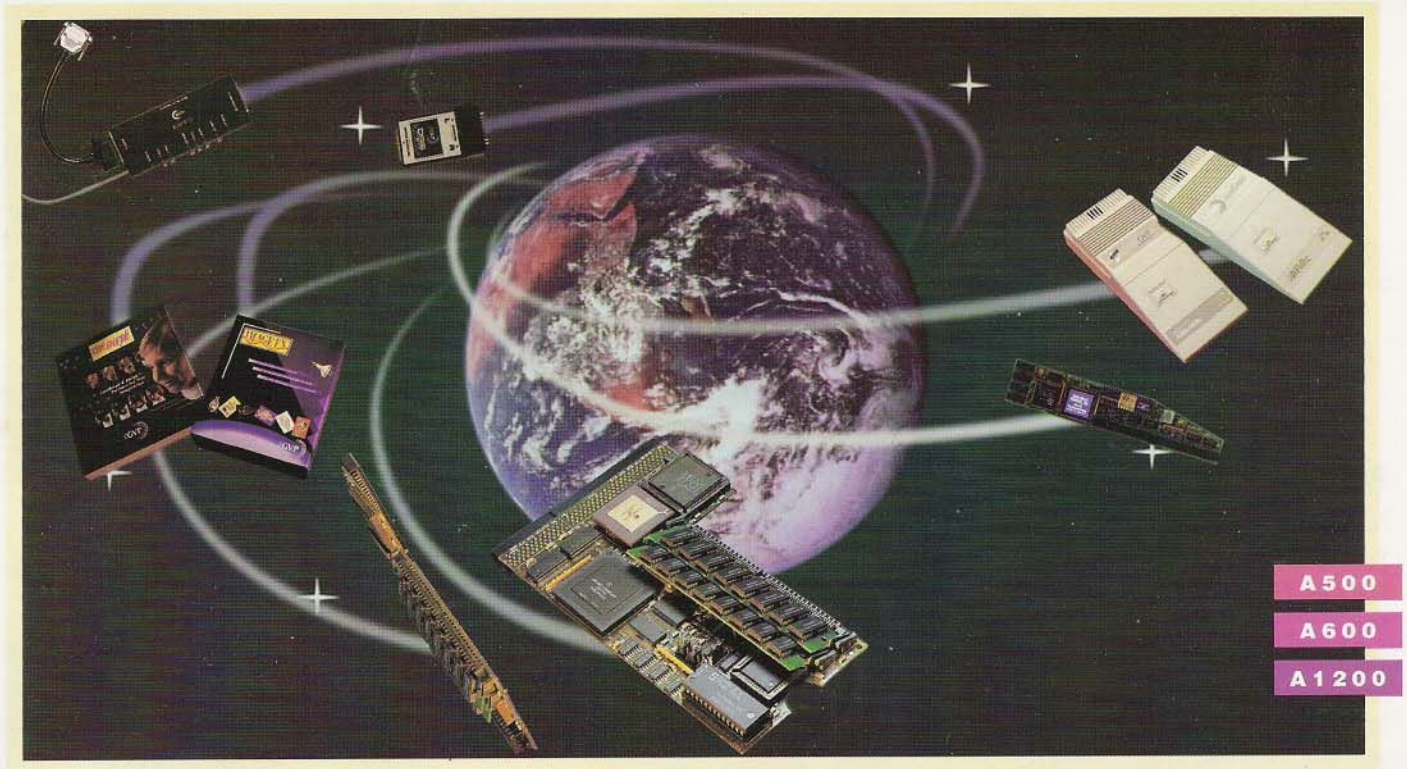

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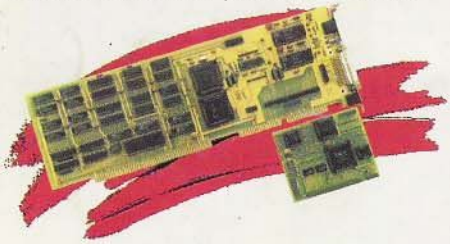

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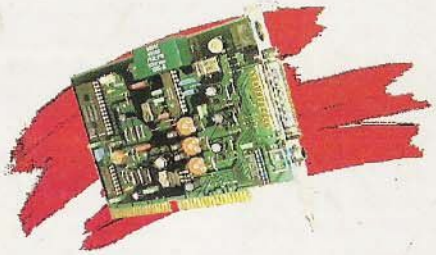

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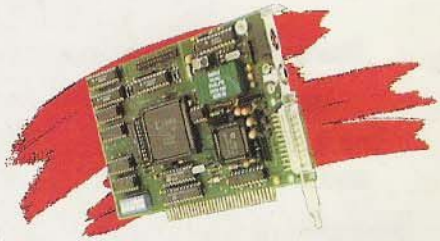

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